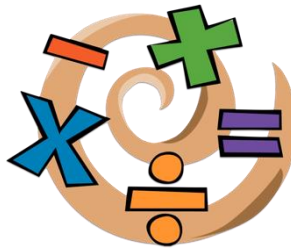




**St Andrew's Academy**

**Mathematics Department**



***S1 BLOCK 2***

***NUMBER***

## Workout

Question 1: Round the following numbers to the nearest 10

- |        |        |        |        |
|--------|--------|--------|--------|
| (a) 32 | (b) 67 | (c) 71 | (d) 24 |
| (e) 59 | (f) 92 | (g) 16 | (h) 83 |
| (i) 17 | (j) 14 | (k) 78 | (l) 43 |
| (m) 84 | (n) 27 | (o) 25 | (p) 41 |
| (q) 75 | (r) 33 | (s) 95 | (t) 98 |
| (u) 19 | (v) 99 | (w) 62 | (x) 54 |
| (y) 15 | (z) 74 |        |        |

Question 2: Round the following numbers to the nearest 10

- |           |           |          |          |
|-----------|-----------|----------|----------|
| (a) 121   | (b) 146   | (c) 164  | (d) 185  |
| (e) 292   | (f) 238   | (g) 312  | (h) 333  |
| (i) 845   | (j) 582   | (k) 233  | (l) 167  |
| (m) 596   | (n) 705   | (o) 502  | (p) 993  |
| (q) 998   | (r) 1241  | (s) 1628 | (t) 1164 |
| (u) 2673  | (v) 6036  | (w) 7555 | (x) 8128 |
| (y) 13821 | (z) 29234 |          |          |

Question 3: Round the following numbers to the nearest 10

- |            |             |            |             |
|------------|-------------|------------|-------------|
| (a) 24.2   | (b) 61.9    | (c) 76.8   | (d) 26.4    |
| (e) 14.7   | (f) 231.8   | (g) 185.3  | (h) 201.5   |
| (i) 78.38  | (j) 135.14  | (k) 141.97 | (l) 164.89  |
| (m) 4938.3 | (n) 5141.49 | (o) 15.455 | (p) 1009.02 |

## Rounding

Videos 277a, 277b on Corbettmaths

Question 4: Round the following numbers to the nearest 100

- |         |         |         |         |
|---------|---------|---------|---------|
| (a) 390 | (b) 220 | (c) 160 | (d) 240 |
| (e) 518 | (f) 842 | (g) 756 | (h) 547 |
| (i) 371 | (j) 578 | (k) 613 | (l) 888 |
| (m) 374 | (n) 611 | (o) 673 | (p) 480 |
| (q) 150 | (r) 349 | (s) 951 | (t) 950 |
| (u) 850 | (v) 949 | (w) 748 | (x) 540 |
| (y) 450 | (z) 495 |         |         |

Question 5: Round the following numbers to the nearest 100

- |            |            |           |           |
|------------|------------|-----------|-----------|
| (a) 1430   | (b) 1280   | (c) 1610  | (d) 1550  |
| (e) 4030   | (f) 6080   | (g) 7420  | (h) 8160  |
| (i) 3562   | (j) 2415   | (k) 8283  | (l) 5858  |
| (m) 9248   | (n) 3358   | (o) 4214  | (p) 9987  |
| (q) 13494  | (r) 16148  | (s) 13114 | (t) 15832 |
| (u) 26783  | (v) 56862  | (w) 45555 | (x) 13668 |
| (y) 489481 | (z) 124346 |           |           |

Question 6: Round the following numbers to the nearest 100

- |             |              |              |              |
|-------------|--------------|--------------|--------------|
| (a) 248.2   | (b) 561.9    | (c) 716.8    | (d) 246.4    |
| (e) 149.7   | (f) 2315.8   | (g) 1835.3   | (h) 2061.5   |
| (i) 2378.38 | (j) 5135.14  | (k) 9141.97  | (l) 4164.89  |
| (m) 44938.3 | (n) 25141.49 | (o) 1995.455 | (p) 51009.02 |

Question 7: Round the following numbers to the nearest 1000

- |          |          |          |          |
|----------|----------|----------|----------|
| (a) 2300 | (b) 5600 | (c) 2900 | (d) 8200 |
| (e) 7200 | (f) 8420 | (g) 2780 | (h) 4500 |
| (i) 1930 | (j) 6480 | (k) 7710 | (l) 5500 |
| (m) 4951 | (n) 7571 | (o) 7456 | (p) 5499 |
| (q) 7395 | (r) 3112 | (s) 3661 | (t) 5532 |
| (u) 4945 | (v) 9442 | (w) 9550 | (x) 9499 |
| (y) 9934 | (z) 7409 |          |          |

Question 8: Round the following numbers to the nearest 1000

- |            |            |            |            |
|------------|------------|------------|------------|
| (a) 21800  | (b) 18300  | (c) 17600  | (d) 19200  |
| (e) 11590  | (f) 16350  | (g) 24500  | (h) 34800  |
| (i) 38434  | (j) 84925  | (k) 48358  | (l) 56187  |
| (m) 123940 | (n) 293482 | (o) 231184 | (p) 563921 |

Question 10: Round the following numbers to the nearest 10000

- |            |            |            |            |
|------------|------------|------------|------------|
| (a) 39304  | (b) 23424  | (c) 44500  | (d) 26492  |
| (e) 26500  | (f) 54588  | (g) 62049  | (h) 75000  |
| (i) 418553 | (j) 144503 | (k) 185000 | (l) 384458 |

Question 11: Round the following numbers to the nearest 100000

- |            |            |             |             |
|------------|------------|-------------|-------------|
| (a) 384000 | (b) 129400 | (c) 569000  | (d) 812300  |
| (e) 384984 | (f) 750000 | (g) 1284000 | (h) 2840000 |

Question 12: Round the following numbers to the nearest 1000000

- |              |              |              |               |
|--------------|--------------|--------------|---------------|
| (a) 1492000  | (b) 5600000  | (c) 7308000  | (d) 6670000   |
| (e) 12800000 | (f) 17450000 | (g) 35700000 | (h) 384728521 |

### Apply

Question 1: 645 people attended a concert. Round this to the nearest 10.

Question 2: 861 students attend a school. Round this to the nearest 100.

Question 3: The cost of a laptop is £1348. Round this to the nearest £100.

Question 4: 24,812 people attended a football match. Round this to the nearest thousand.

Question 5: The population of a city is 85,398. Round this to the nearest thousand.

Question 6: The number of beads in a jar is 50 to the nearest ten.

- (a) What is the minimum possible number of beads in the jar?
- (b) What is the maximum possible number of beads in the jar?

Question 7: The number of students at a school is 1200 to the nearest 100.

What is the maximum possible number of students at the school?

Question 8: The population of a village is 900 to the nearest 100.

State if the following could be true or false:

- (a) 890 people live in the village.
- (b) 960 people live in the village.
- (c) 912 people live in the village.
- (d) 845 people live in the village.
- (e) 850 people live in the village.
- (f) 950 people live in the village.

Question 9: The value of a car is £7000 to the nearest thousand pounds.

- (a) What is the least possible value of the car?
- (b) What is the greatest possible value of the car?



Question 10: The number of people at a concert is 200 to the nearest 10.

- (a) What is the least possible number of people at the concert?
- (a) What is the greatest possible number of people at the concert?

Examples



Click here

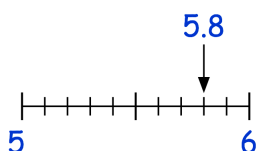


Scan here

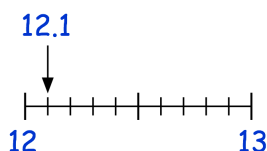
Workout

Question 1: Round each of the numbers below to the nearest whole number.

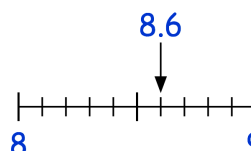
(a) 5.8



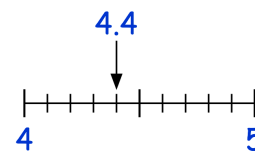
(b) 12.1



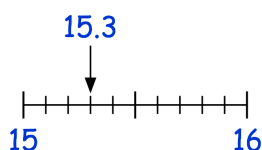
(c) 8.6



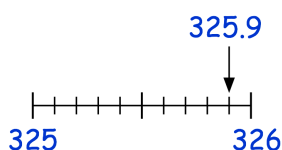
(d) 4.4



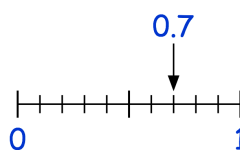
(e) 15.3



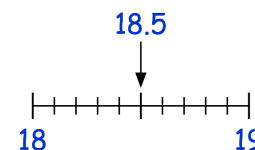
(f) 325.9



(g) 0.7



(h) 18.5



Question 2: Round each of the following numbers to the nearest whole number.

(a) 7.2

(b) 1.9

(c) 14.3

(d) 9.4

(e) 27.8

(f) 19.1

(g) 50.6

(h) 154.7

(i) 200.5

(j) 334.6

(k) 99.9

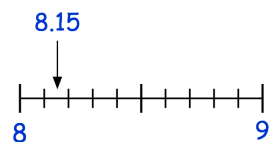
(l) 840.4

(m) 1981.6

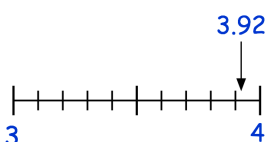
(n) 245.3

Question 3: Round each of the numbers below to the nearest whole number.

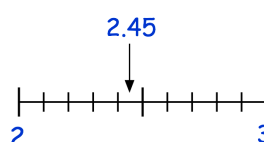
(a) 8.15



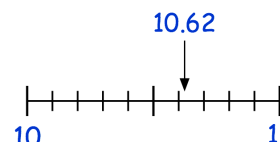
(b) 3.92



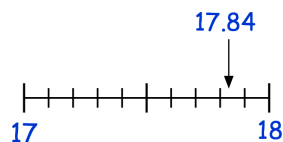
(c) 2.45



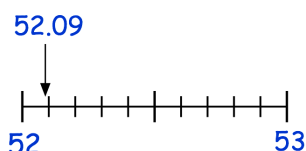
(d) 10.62



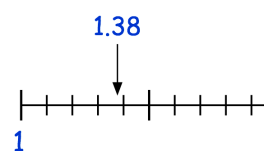
(e) 17.84



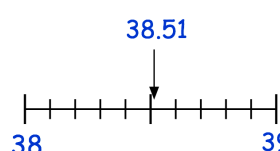
(f) 52.09



(g) 1.38



(h) 38.51



## Rounding: to nearest whole number

Video 276 on [www.corbettmaths.com](http://www.corbettmaths.com)

Question 4: Round each of the following numbers to the nearest integer (whole number).

- (a) 4.11    (b) 6.74    (c) 2.91    (d) 9.46    (e) 8.27    (f) 6.34  
 (g) 13.89    (h) 16.08    (i) 42.63    (j) 29.54    (k) 38.15    (l) 103.46

Question 5: Round each of the following numbers to the nearest integer (whole number).

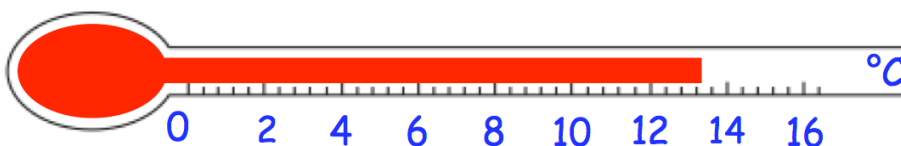
- (a) 48.394    (b) 7.651    (c) 8.909    (d) 32.488    (e) 838.099    (f) 573.5619  
 (g) 15.6001    (h) 144.4998

Apply

Question 1: A cupcake contains 4.6g of protein.  
Round 4.6g to the nearest whole number.



Question 2: The thermometer shows the temperature in a town.



- (a) Write down the temperature  
 (b) Round the temperature to the nearest degree celsius.

Question 3: Georgia has divided 2355 by a number on her calculator  
The calculator shows the answer.



- (a) What number did Georgia divide 2355 by?  
 (b) Round her answer to the nearest integer

Question 4: Derek wants to round 8 hours and 45 minutes to the nearest hour.  
He says the answer is 8 because 8.45 rounds to 8.  
Explain why Derek is wrong.

Question 5: Jurgen has rounded a number to the nearest whole number.  
His answer was 600.  
Write down 5 different possible numbers that he could have rounded.

Answers



Click here



Scan here

Examples

Workout



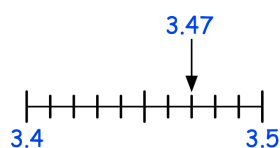
Click here



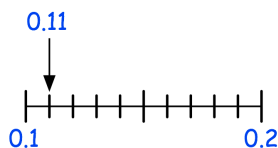
Scan here

Question 1: Round each of the numbers below to 1 decimal place.

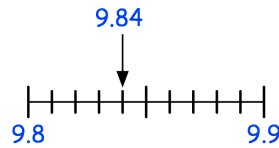
(a) 3.47



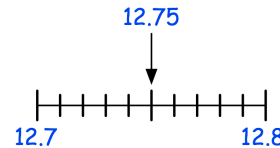
(b) 0.11



(c) 9.84



(d) 12.75



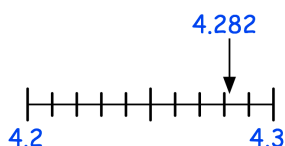
Question 2: Round each of the following numbers to 1 decimal place.

(a) 4.82 (b) 6.19 (c) 9.77 (d) 10.63 (e) 21.41 (f) 3.14 (g) 48.18

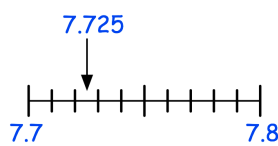
(h) 29.26 (i) 80.85 (j) 0.43 (k) 248.38 (l) 637.51 (k) 62.89 (l) 9.99

Question 3: Round each of the numbers below to one decimal place.

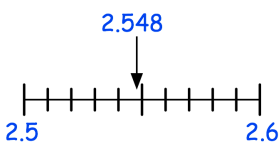
(a) 4.282



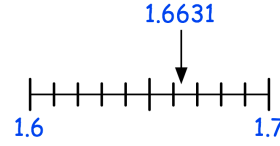
(b) 7.725



(c) 2.548



(d) 1.6631



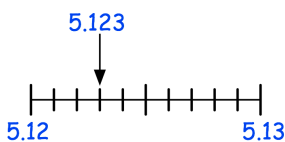
Question 4: Round each of the numbers below to the nearest tenth (1 decimal place)

(a) 5.191 (b) 8.246 (c) 10.087 (d) 39.555 (e) 0.831

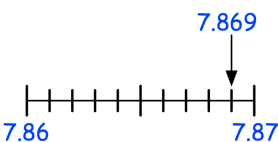
(f) 93.2941 (g) 38.3152 (h) 7.26229 (i) 0.54868696

Question 5: Round each of the numbers below to 2 decimal places.

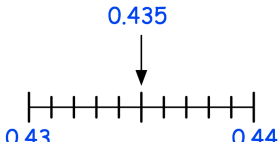
(a) 5.123



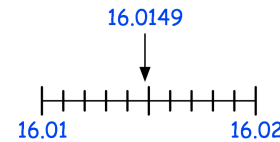
(b) 7.869



(c) 0.435



(d) 16.0149





Question 6: Round each of the numbers below to 2 decimal places

- (a) 3.487      (b) 2.613      (c) 1.984      (d) 10.046      (e) 8.155  
(f) 19.367      (g) 3.141      (h) 6.0698      (i) 4.26317      (j) 93.46197

Question 7: Round each of the numbers below to 3 decimal places

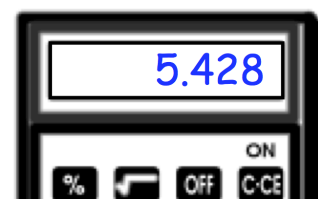
- (a) 0.0346      (b) 6.7568      (c) 4.2251      (d) 1.7583  
(e) 40.48546      (f) 128.01891      (g) 0.5059802      (h) 384.456094

Apply

Question 1: 51.26% of the people living in a town are female.  
Round this figure to one decimal place.

Question 2: Walter has worked out a calculation on a calculator  
Shown on the calculator is the answer.

- (a) Round the answer to one decimal place  
(b) Round the answer to two decimal places



Question 3: Daniel has been asked to round 1.725 to one decimal place.  
His answer is 172.5  
Explain Daniel's mistake.

Question 4: Nicole has rounded a number to one decimal place.  
Her answer is 9.2  
Write down 10 different possible numbers that she could have rounded.

Question 5: A chocolate bar contains 0.4715g of salt.  
Round this to two decimal places.

Question 6: Dominic writes down two numbers, A and B.  
A and B have 2 decimal places.  
Dominic rounds A to 1 decimal place and calls his answer C.  
He rounds B to 1 decimal place and calls his answer D.  
Dominic says the difference between A and B cannot be the same as the  
difference between C and D.  
Show he is incorrect

Answers



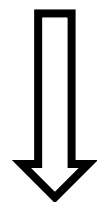
- 1)  $4 \times 60$
- 2)  $400 + 800$
- 3)  $80 \times 300$
- 4)  $240 \div 30$
- 5)  $2800 \div 40$
- 6)  $600 - 50$
- 7)  $70 \times 40$
- 8)  $20 \times 3000$
- 9)  $3200 - 80$
- 10)  $18000 \div 600$
- 11)  $42000 + 700$
- 12)  $1200 \div 300$



1. Round each of the following numbers to the nearest 10.  
a) 87   b) 343   c) 451   d) 898   e) 1453
2. Round each of the following numbers to the nearest 100.  
a) 342   b) 831   c) 395   d) 461   e) 8180
3. Round each of the following numbers to the nearest 1000.  
a) 3354   b) 8398   c) 3164   d) 4682   e) 82089



1. Round to the nearest whole number and estimate:  
a)  $5.64 + 4.52$    b)  $19.69 + 5.78 + 0.85$    c)  $19.25 - 5.36$   
d)  $99.25 + 15.14$    e)  $11.47 + 5.27 + 17.83$    c)  $19.85 + 5.24 - 2.12$
2. Round to the nearest 10 and estimate:  
a)  $361 + 219$    b)  $46 + 97$    c)  $321 + 47$   
d)  $233 - 46$    e)  $658 - 281$    f)  $896 - 621$
3. Round to the nearest 100 and estimate:  
a)  $396 + 473$    b)  $404 + 723$    c)  $741 - 317$   
d)  $89 + 72$    e)  $358 + 474$    f)  $4105 - 1963$
4. Round to the nearest 1000 and estimate:  
a)  $12285 + 12359$    b)  $4874 + 4165$    c)  $1084 + 4998$   
d)  $25415 - 5752$    e)  $54965 - 8987$    f)  $23254 - 9874$



1. Round to the nearest 10 and estimate:  
a)  $8.91 \times 21.58$    b)  $113.21 \times 24.98$    c)  $46.05 \times 95.2$   
d)  $25.36 \times 37.35$    e)  $16.985 \times 32.57$
2. Round small numbers to the nearest whole number. Round large numbers to the nearest 10 or 100 and estimate:  
a)  $19.85 \times 3.25$    b)  $415.87 \times 33.85$    c)  $627.08 \times 5.2$   
d)  $115.82 \times 6.17$    e)  $5.399 \times 328.97$    f)  $41.88 \div 4.09$   
g)  $217.22 \div 4.07$    h)  $633.64 \div 30.66$    i)  $408.55 \div 83.56$   
j)  $147.48 \div 5.16$    k)  $61.85 \div 4.44$    l)  $236.55 \times 4.33$

# Stretch!

Round and estimate:

1. 
$$\frac{70.47 - 4.43}{0.999}$$
2. 
$$\frac{5.044 + 61.85}{4.989}$$
3. 
$$\frac{80.99}{1.989 + 8.401}$$
4. 
$$\frac{9.977 - 7.164}{0.993}$$
5. 
$$\frac{3.155 + 8.187}{1.0099}$$

Name : \_\_\_\_\_

Score : \_\_\_\_\_

Teacher : \_\_\_\_\_

Date : \_\_\_\_\_

## Word Problems

Estimate the sum or difference by rounding each number to the nearest hundreds.

- 1) Sam's school sold 819 boxes of doughnuts for a fundraiser this year. He sold 156 boxes. How many boxes were sold by the rest of the students? \_\_\_\_\_
- 2) Keith has 492 baseball cards. Mary bought 439 of Keith's baseball cards. How many baseball cards does Keith still own? \_\_\_\_\_
- 3) Sandy grew 311 watermelons and Nancy grew 617 watermelons this year. How many watermelons did they grow together? \_\_\_\_\_
- 4) There are 623 dogwood trees currently in the park. Park workers will plant 647 more dogwood trees today. How many dogwood trees will be in the park when the workers are finished? \_\_\_\_\_
- 5) Nancy and Jessica decided to bake cookies for a family picnic. Nancy baked 131 raisin cookies and Jessica baked 896 sugar cookies. How many cookies did they bake? \_\_\_\_\_
- 6) Tom had 816 dimes in his bank. He spent 226 of his dimes. How many dimes does he now have in his bank? \_\_\_\_\_
- 7) There are 781 lemons in the store, 147 lemons are sold by the end of the day. How many lemons are left in the store? \_\_\_\_\_
- 8) Dan is reading a book that contains 756 pages. He has read 161 pages. How many pages were unread? \_\_\_\_\_
- 9) Fred owns 234 books and Mike owns 188 books. How many books do they have together? \_\_\_\_\_
- 10) Sam went hiking along the Appalachian Trail. He hiked 237 miles the first week, and 774 miles the second week. How many miles did Sam hike? \_\_\_\_\_

Name : \_\_\_\_\_

Score : \_\_\_\_\_

Teacher : \_\_\_\_\_

Date : \_\_\_\_\_

## Estimating Products to the Nearest Tens

Estimate the product by rounding each number to the nearest ten.

$$\begin{array}{r} 1) \quad 77 \quad \longrightarrow \\ \times 31 \quad \longrightarrow \quad \underline{x} \end{array}$$

$$\begin{array}{r} 8) \quad 49 \quad \longrightarrow \\ \times 53 \quad \longrightarrow \quad \underline{x} \end{array}$$

$$\begin{array}{r} 2) \quad 17 \quad \longrightarrow \\ \times 26 \quad \longrightarrow \quad \underline{x} \end{array}$$

$$\begin{array}{r} 9) \quad 28 \quad \longrightarrow \\ \times 37 \quad \longrightarrow \quad \underline{x} \end{array}$$

$$\begin{array}{r} 3) \quad 27 \quad \longrightarrow \\ \times 58 \quad \longrightarrow \quad \underline{x} \end{array}$$

$$\begin{array}{r} 10) \quad 67 \quad \longrightarrow \\ \times 52 \quad \longrightarrow \quad \underline{x} \end{array}$$

$$\begin{array}{r} 4) \quad 16 \quad \longrightarrow \\ \times 91 \quad \longrightarrow \quad \underline{x} \end{array}$$

$$\begin{array}{r} 11) \quad 63 \quad \longrightarrow \\ \times 87 \quad \longrightarrow \quad \underline{x} \end{array}$$

$$\begin{array}{r} 5) \quad 21 \quad \longrightarrow \\ \times 51 \quad \longrightarrow \quad \underline{x} \end{array}$$

$$\begin{array}{r} 12) \quad 41 \quad \longrightarrow \\ \times 79 \quad \longrightarrow \quad \underline{x} \end{array}$$

$$\begin{array}{r} 6) \quad 12 \quad \longrightarrow \\ \times 42 \quad \longrightarrow \quad \underline{x} \end{array}$$

$$\begin{array}{r} 13) \quad 34 \quad \longrightarrow \\ \times 15 \quad \longrightarrow \quad \underline{x} \end{array}$$

$$\begin{array}{r} 7) \quad 18 \quad \longrightarrow \\ \times 82 \quad \longrightarrow \quad \underline{x} \end{array}$$

$$\begin{array}{r} 14) \quad 33 \quad \longrightarrow \\ \times 83 \quad \longrightarrow \quad \underline{x} \end{array}$$

Name : \_\_\_\_\_

Score : \_\_\_\_\_

Teacher : \_\_\_\_\_

Date : \_\_\_\_\_

## Estimating Products to the Nearest Tens

Estimate the product by rounding each number to the nearest tens.

1)  $755 \times 28 =$  \_\_\_\_\_

8)  $376 \times 71 =$  \_\_\_\_\_

2)  $638 \times 36 =$  \_\_\_\_\_

9)  $297 \times 85 =$  \_\_\_\_\_

3)  $418 \times 13 =$  \_\_\_\_\_

10)  $441 \times 63 =$  \_\_\_\_\_

4)  $166 \times 79 =$  \_\_\_\_\_

11)  $344 \times 61 =$  \_\_\_\_\_

5)  $324 \times 83 =$  \_\_\_\_\_

12)  $677 \times 94 =$  \_\_\_\_\_

6)  $253 \times 92 =$  \_\_\_\_\_

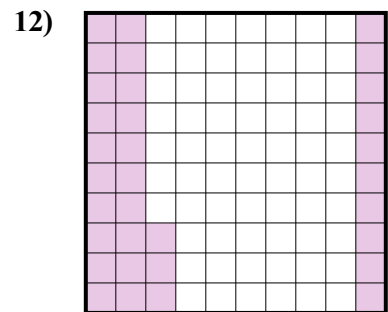
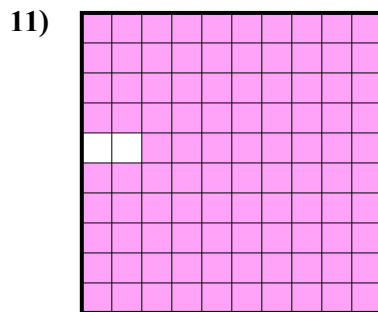
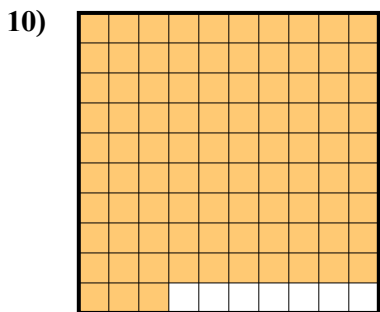
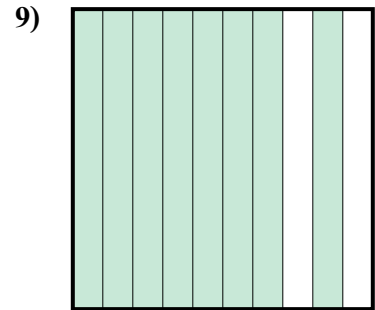
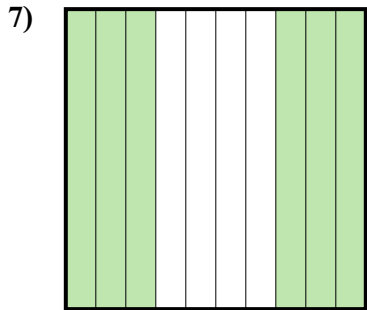
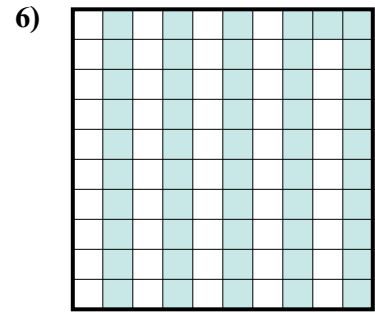
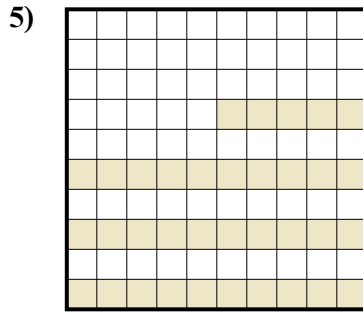
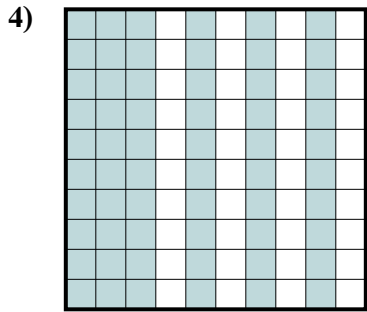
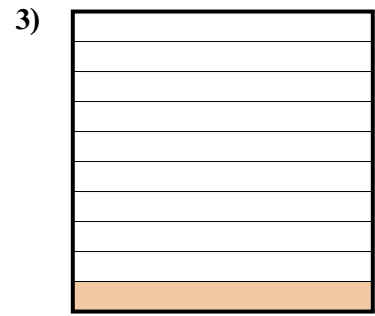
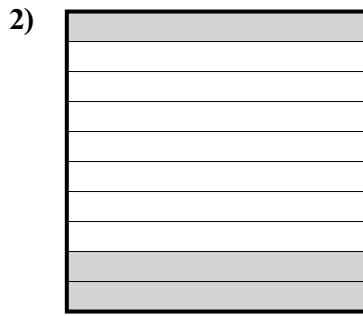
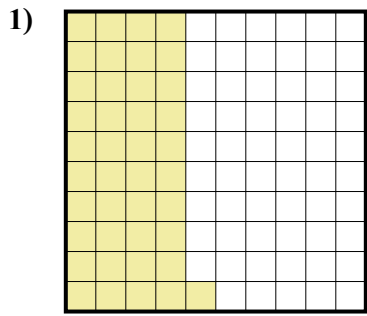
13)  $597 \times 68 =$  \_\_\_\_\_

7)  $213 \times 24 =$  \_\_\_\_\_

14)  $759 \times 91 =$  \_\_\_\_\_

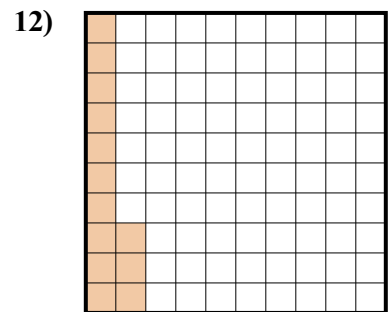
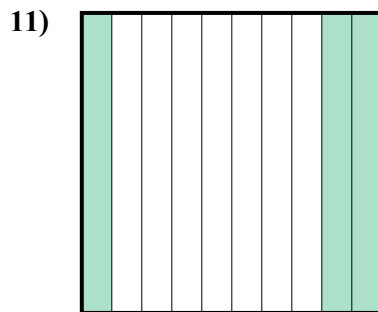
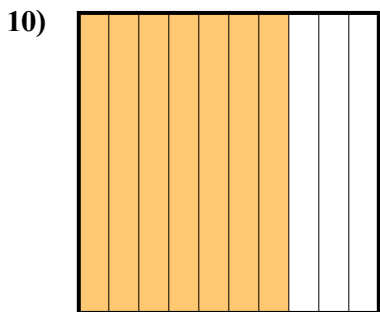
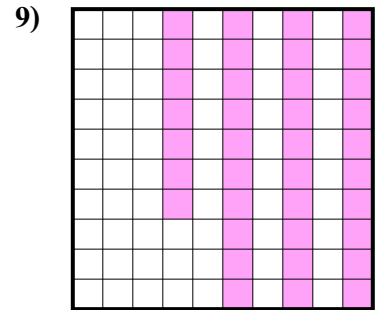
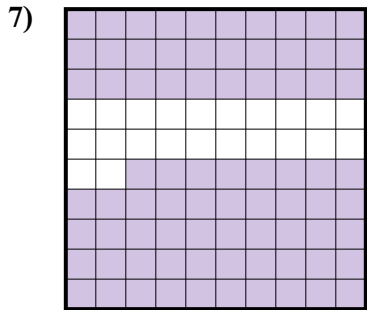
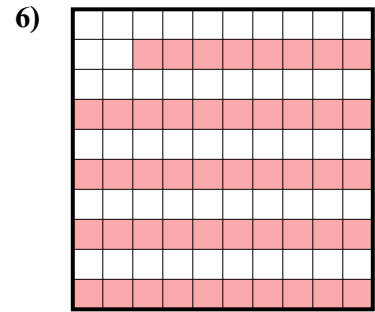
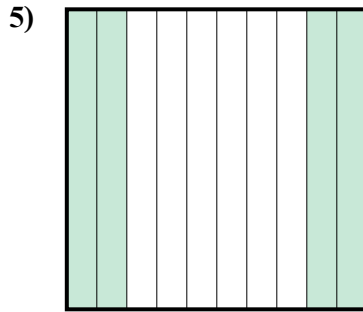
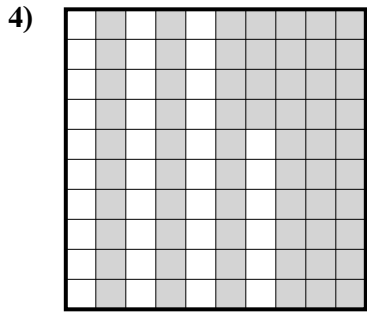
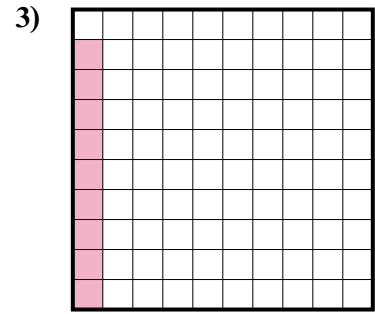
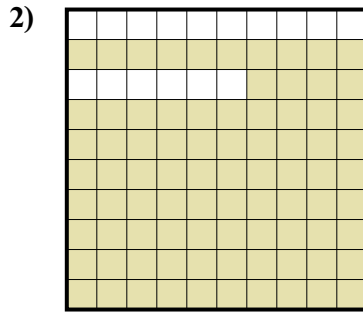
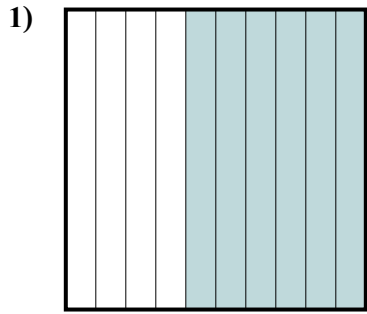


Determine the amount shaded of the whole. Write your answer as a decimal.



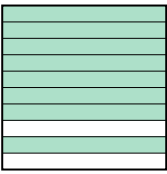
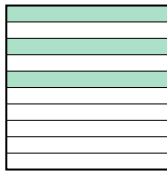
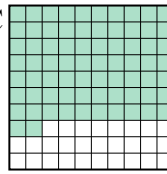
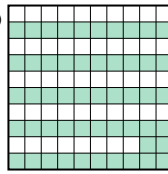


Determine the amount shaded of the whole. Write your answer as a decimal.

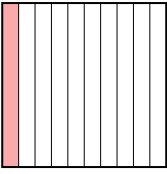
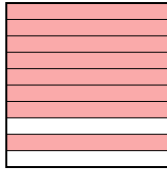
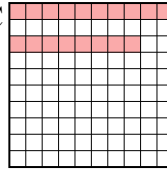
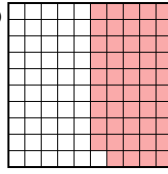




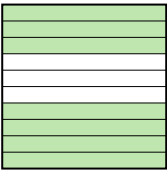
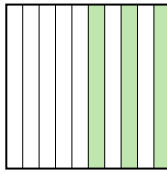
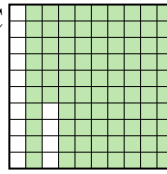
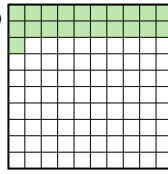
Put the boxes in order from least to greatest based on the shaded amount.

Ex) A  B  C  D 

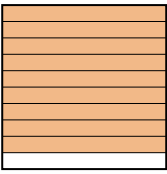
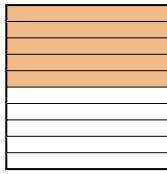
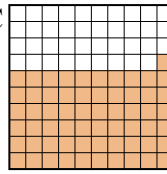
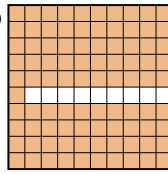
Small 0.3 - B  
0.52 - D  
0.72 - C  
Large 0.8 - A

1) A  B  C  D 

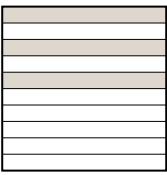
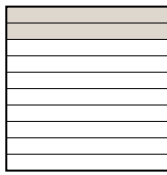
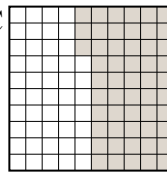
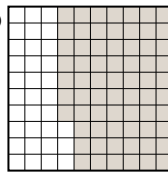
Small \_\_\_\_\_  
\_\_\_\_\_  
Large \_\_\_\_\_

2) A  B  C  D 


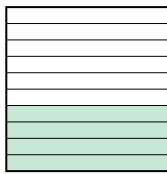
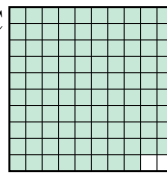
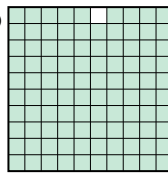
Small \_\_\_\_\_  
\_\_\_\_\_  
Large \_\_\_\_\_

3) A  B  C  D 

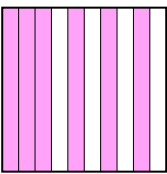
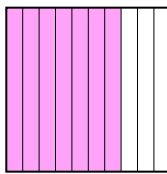
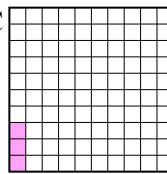
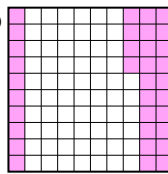
Small \_\_\_\_\_  
\_\_\_\_\_  
Large \_\_\_\_\_

4) A  B  C  D 

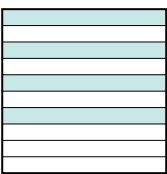
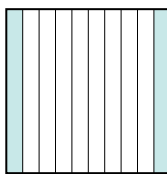
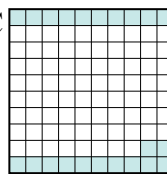
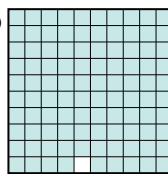
Small \_\_\_\_\_  
\_\_\_\_\_  
Large \_\_\_\_\_

5) A  B  C  D 

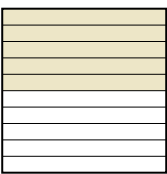
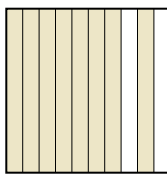
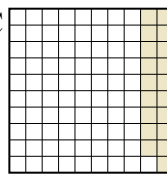
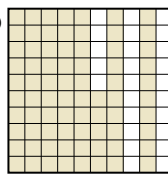
Small \_\_\_\_\_  
\_\_\_\_\_  
Large \_\_\_\_\_

6) A  B  C  D 

Small \_\_\_\_\_  
\_\_\_\_\_  
Large \_\_\_\_\_

7) A  B  C  D 

Small \_\_\_\_\_  
\_\_\_\_\_  
Large \_\_\_\_\_


8) A  B  C  D 

Small \_\_\_\_\_  
\_\_\_\_\_  
Large \_\_\_\_\_

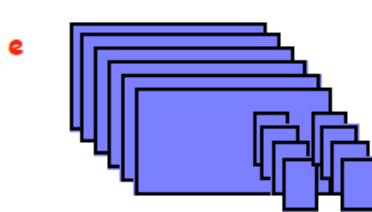
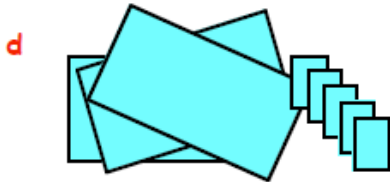
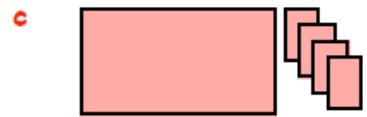
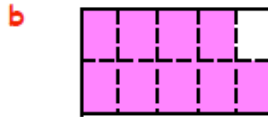
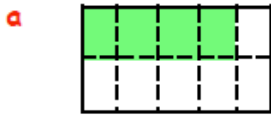


# Representing Numbers as Decimal Fractions

## Exercise 1

1. In this question,  stands for 1 (whole number).

What do the following diagrams represent ?



2. Draw neat pictures, in the same style as shown above, to represent :-

a 0.5

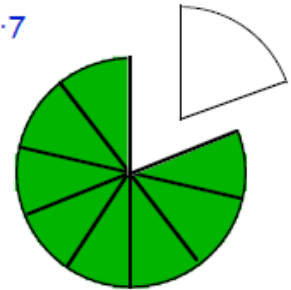
b 1.6

c 2.2

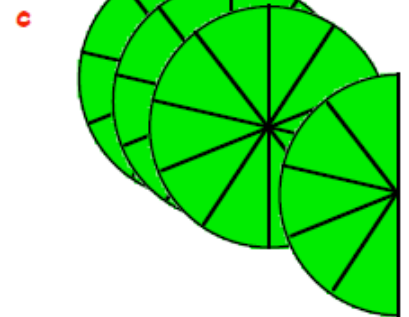
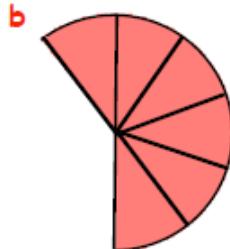
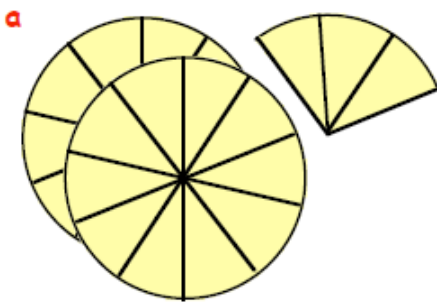
d 6.7

3. Shown here is part of a circle (which had originally been divided into 10 sections).

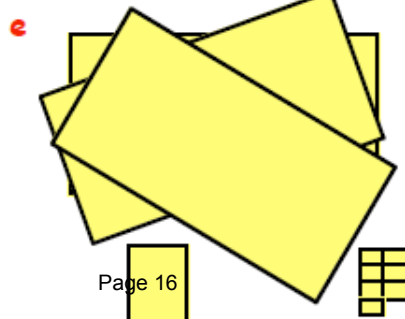
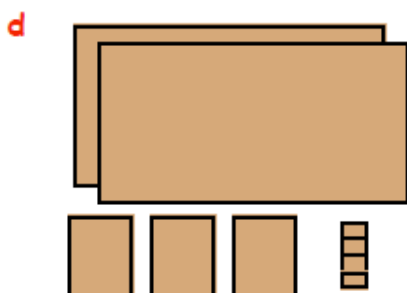
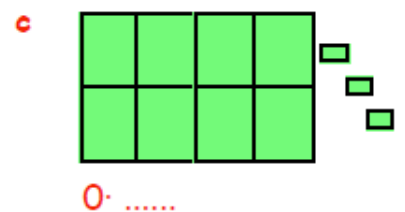
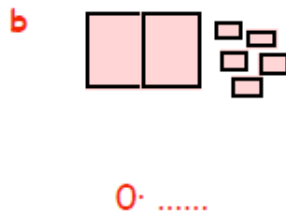
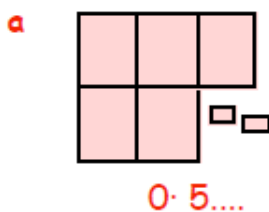
What decimal number does the shaded part represent ?



4. What numbers are represented in the following diagrams ?



5. What numbers are represented in the diagrams below ?



## Representing Numbers as Decimal Fractions

6. Draw neat pictures, similar to those above, to show the following decimal numbers :-  
a 0.45                      b 1.62                      c 3.78                      d 0.04
7. In the decimal number 13.47, what does the    a 4 mean    b 7 mean ?
8. What does the 6 stand for in each of these numbers :-  
a 63.75                      b 124.69                      c 16.08                      d 27.56 ?
9. In the decimal number 13.479, what does the :-    a 7 mean                      b 9 mean ?
10. What does the 2 stand for in each of the following numbers :-  
a 324.153    b 9.026    c 0.254    d 209.533    e 4.062 ?
11. Arrange the following groups of numbers in order, **smallest** first :-  
a 0.98, 0.099, 1.001, 0.9, 1.090, 0.899, 0.009.  
b 0.076, 0.067, 0.008, 0.090, 0.077, 0.007, 0.107.
12. The number 2.365 can be thought of as follows :-  
$$2.365 = 2 \text{ units} + \frac{3}{10} + \frac{6}{100} + \frac{5}{1000} \text{ or } 2 \text{ units} + \frac{365}{1000}$$
  
Write the following decimals in the same **two** ways :-  
a 5.716                      b 7.693                      c 0.548                      d 20.207                      e 0.056
13. What number is :-  
a  $\frac{3}{10}$  up from 2.6                      b  $\frac{5}{10}$  down from 8.2                      c  $\frac{7}{10}$  up from 6.91  
d  $\frac{6}{100}$  up from 0.87                      e  $\frac{8}{100}$  down from 1.42                      f  $\frac{7}{100}$  up from 3.653  
g  $\frac{3}{1000}$  up from 2.475                      h  $\frac{5}{1000}$  down from 0.971                      i  $\frac{9}{1000}$  down from 1.604 ?
14. What number is **half way** between 0.782 and 0.786 ?
15. What number lies **half way** between :-  
a 0.15 and 0.21                      b 0.88 and 0.9                      c 1.204 and 1.208  
d 0.090 and 0.096                      e 0.001 and 0.007                      f 2.315 and 2.325  
g 1.000 and 0.998                      h 0.1 and 0.08                      i 0.01 and 0.008 ?

### Workout

Question 1: Arrange in order from smallest to largest

- |  |  |
|--|--|
| (a) 3.7, 3.5, 3.9, 3.4, 3.8            | (b) 9.2, 2.9, 5.4, 1.8, 8.7            |
| (c) 4.6, 4.9, 14.1, 0.9, 1.2           | (d) 8.13, 8.05, 8.24, 8.09, 8.15, 8.02 |
| (e) 1.53, 1.48, 1.59, 1.44, 2.11, 0.98 | (f) 0.59, 1.24, 0.45, 1.34, 0.88, 2.01 |

Question 2: Arrange in order from smallest to largest

- |   |   |
|---|---|
| (a) 1.2, 1.08, 1.13, 1.6, 1.29          | (b) 5.25, 5.2, 5.19, 5.08, 5.1, 5.21    |
| (c) 40.6, 46.1, 40.49, 40.68, 46, 46.09 | (d) 0.24, 0.3, 0.125, 0.2, 0.199, 0.18  |
| (e) 0.82, 0.082, 0.9, 0.807, 0.8        | (f) 65, 6.5, 0.65, 7.65, 0.076, 7       |
| (g) 0.25, 0.3, 0.2, 0.06, 0.19          | (h) 7.81, 7.49, 7.9, 7.007, 7.1, 7.107  |
| (i) 10.083, 10.08, 10.009, 10.56, 10.3  | (j) 0.342, 0.075, 0.256, 0.34, 0.6, 0.4 |

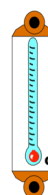
Question 3: Place the correct sign, < or > between the following pairs of decimals

- |                                   |                                       |                                     |
|-----------------------------------|---------------------------------------|-------------------------------------|
| (a) 6.3 <input type="text"/> 6.7  | (b) 0.8 <input type="text"/> 0.5      | (c) 2.2 <input type="text"/> 2.15   |
| (d) 8.21 <input type="text"/> 8.9 | (e) 9.099 <input type="text"/> 9.0971 | (f) 1.205 <input type="text"/> 1.23 |

### Apply

Question 1: Arrange these temperatures in order, from lowest to highest

- (a) 11 °C, 10.8°C, 12.3 °C, 15 °C, 12.7 °C
- (b) 8.5 °C, 0.7 °C, -3 °C, 0.9 °C, 6 °C, 1.3 °C, -5.1°C



## Ordering Decimals

Video 95 on [www.corbettmaths.com](http://www.corbettmaths.com)

Question 2: Arrange these amounts of money in order, from highest to lowest.

- (a) £6.74, £10, £1.99, £8, £3.30, £2
- (b) 80p, £1, £0.09, 23p, £2.75, £0.82, £20



Question 3: The distance of various landmarks from Big Ben are listed below. Arrange the landmarks in order, from closest to furthest.

London Eye	0.41 miles
Wembley	11.62 miles
Buckingham Palace	0.8 miles
Trafalgar Square	0.63 miles
Hyde Park	2.27 miles
Thorpe Park	24.7 miles



Question 4: Arrange these measurements in order from largest to smallest

- (a) 6.2m, 6.077m, 6.31m, 6.19m, 6.4m, 6.009m
- (b) 5kg, 800g, 1.2kg, 90g, 0.6kg

Question 5: The heights of seven footballers are listed below.

1.9m, 1.82m, 1.78m, 1.8m, 1.88m, 1.86m, 1.7m

- (a) Arrange the heights in order from smallest to largest.
- (b) Write down the median height.
- (c) A player is picked at random.  
Write down the probability that he is over 1.85m.



Question 6: The lengths of time that it takes to complete a jigsaw are below.

0.5 hours, 1.25 hours, 100 minutes, 0.75 hours, 40 minutes,  
2 hours, 1.5 hours, 180 minutes, 61 minutes, 0.25 hours.

- (a) Arrange the times in order, from quickest to longest.
- (b) What fraction of the people completed the jigsaw in under 1 hour?
- (c) What percentage of people took 2 hours or longer?

## Comparing Decimals (A)

Compare each pair of decimals using a  $<$ ,  $>$  or  $=$  sign.

$19.8 \square 20.1$

$20.7 \square 20.2$

$18.2 \square 18.1$

$9.2 \square 8.6$

$22.8 \square 22.8$

$17.7 \square 17.9$

$10.2 \square 10.7$

$4.8 \square 5.1$

$11.4 \square 12.2$

$1.8 \square 1.5$

$11.2 \square 11.7$

$12.3 \square 11.4$

$14.1 \square 13.5$

$11 \square 11.7$

$20.4 \square 20.2$

$15.8 \square 16.4$

$18.4 \square 18.1$

$14.4 \square 14.8$

$20.5 \square 20$

$9.5 \square 9.2$

$23.3 \square 23.9$

$8.2 \square 8.2$

$9.9 \square 10.4$

$20.8 \square 19.9$

$17.1 \square 16.6$

$18.4 \square 18.5$

$18.6 \square 19.4$

$7 \square 6.4$

$11.6 \square 11.4$

$22.4 \square 22.2$

$3.6 \square 4$

$15.3 \square 14.4$

$1.8 \square 2.4$

$5.4 \square 5.7$

$6 \square 6.4$

$16.1 \square 15.7$

$16.6 \square 17.5$

$10.9 \square 10.5$

$6.9 \square 7.6$

$2.6 \square 3.1$

$12.5 \square 12.9$

$7.2 \square 6.7$

$10.3 \square 9.7$

$5.6 \square 5.6$

$18.2 \square 17.6$

$14.6 \square 14.2$

$14.1 \square 13.9$

$11.8 \square 11$

$2.8 \square 1.9$

$11.4 \square 11$

$6.5 \square 7.3$

$20.6 \square 20.5$

$21.7 \square 21.9$

$23.9 \square 23.7$

$7.4 \square 6.5$

$15.3 \square 15.5$

$2.7 \square 3.1$

$9.2 \square 9.9$

$2.7 \square 1.9$

$15.8 \square 15.8$

## Comparing Decimals (A)

Compare each pair of decimals using a  $<$ ,  $>$  or  $=$  sign.

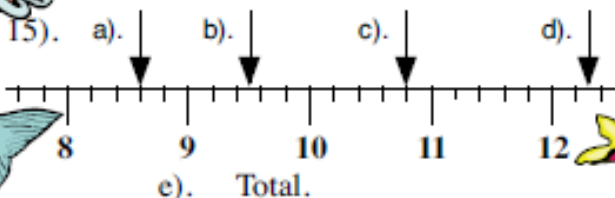
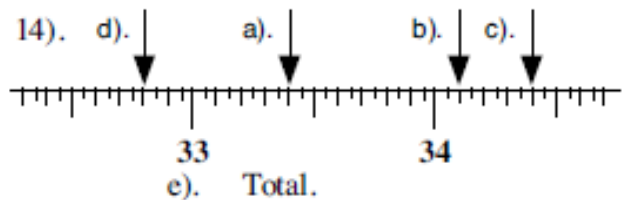
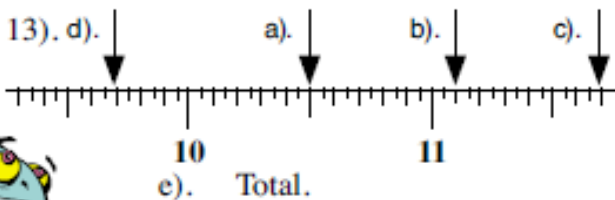
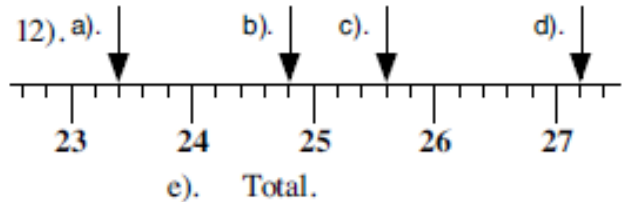
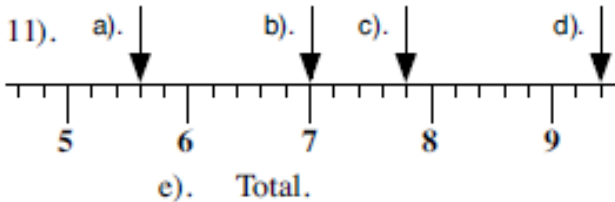
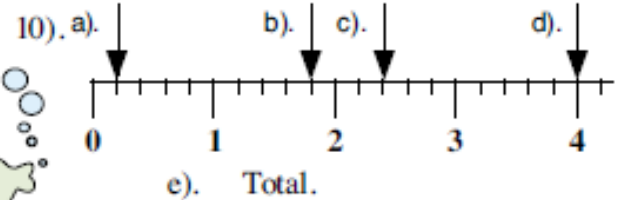
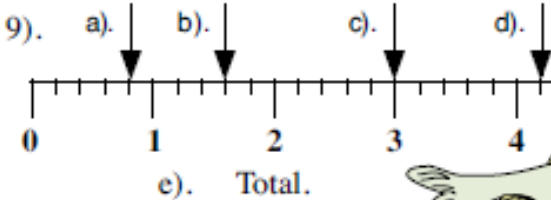
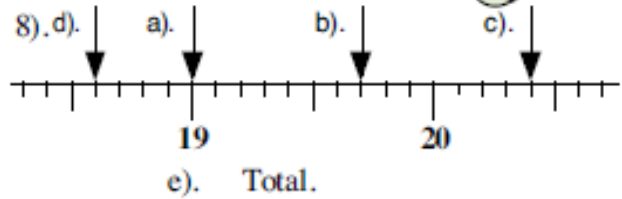
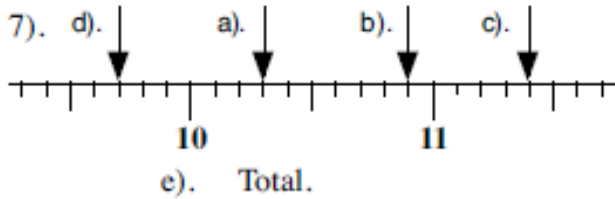
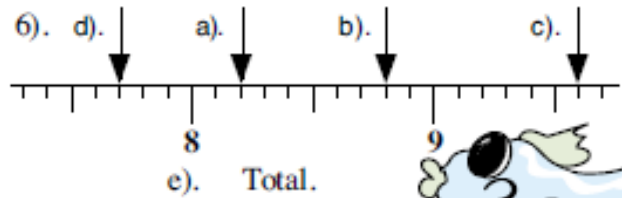
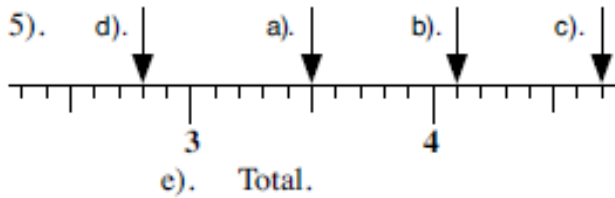
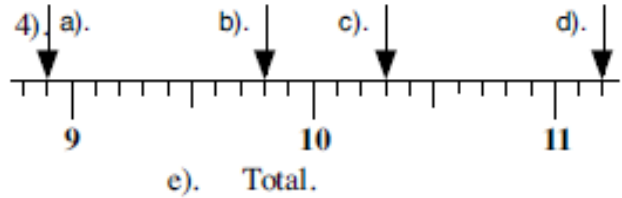
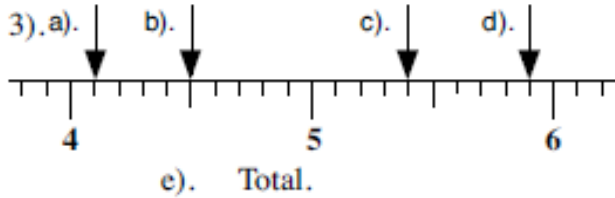
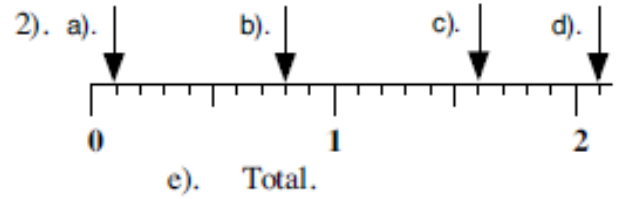
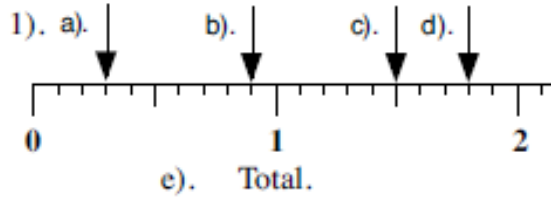
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| 11.96 | <input type="checkbox"/> | 12.83 | 21.7  | <input type="checkbox"/> | 21.44 | 18.16 | <input type="checkbox"/> | 18.78 |
| 2.39  | <input type="checkbox"/> | 2.87  | 11.68 | <input type="checkbox"/> | 11.84 | 13.7  | <input type="checkbox"/> | 13.68 |
| 4.04  | <input type="checkbox"/> | 4.47  | 5.79  | <input type="checkbox"/> | 4.82  | 6.87  | <input type="checkbox"/> | 7.05  |
| 4.55  | <input type="checkbox"/> | 5.3   | 19.76 | <input type="checkbox"/> | 19.68 | 10.97 | <input type="checkbox"/> | 10.53 |
| 24.48 | <input type="checkbox"/> | 24.03 | 8.15  | <input type="checkbox"/> | 8.03  | 22.04 | <input type="checkbox"/> | 22.56 |
| 15.17 | <input type="checkbox"/> | 14.53 | 23.63 | <input type="checkbox"/> | 22.84 | 8.82  | <input type="checkbox"/> | 8.75  |
| 2.29  | <input type="checkbox"/> | 3.27  | 23.22 | <input type="checkbox"/> | 22.76 | 10.22 | <input type="checkbox"/> | 10.32 |
| 24.72 | <input type="checkbox"/> | 24.07 | 8.54  | <input type="checkbox"/> | 7.77  | 19.66 | <input type="checkbox"/> | 20.61 |
| 18.16 | <input type="checkbox"/> | 18.56 | 24.83 | <input type="checkbox"/> | 24.88 | 4.44  | <input type="checkbox"/> | 4.04  |
| 23.99 | <input type="checkbox"/> | 24.93 | 24.26 | <input type="checkbox"/> | 24.94 | 1.57  | <input type="checkbox"/> | 1.53  |
| 23.24 | <input type="checkbox"/> | 22.94 | 9.54  | <input type="checkbox"/> | 10.46 | 24.98 | <input type="checkbox"/> | 24.43 |
| 11.24 | <input type="checkbox"/> | 10.31 | 22.42 | <input type="checkbox"/> | 21.89 | 20.27 | <input type="checkbox"/> | 19.59 |
| 13.09 | <input type="checkbox"/> | 13.63 | 9.77  | <input type="checkbox"/> | 9.46  | 16.99 | <input type="checkbox"/> | 16.8  |
| 13.98 | <input type="checkbox"/> | 14.21 | 10.2  | <input type="checkbox"/> | 10.93 | 11.86 | <input type="checkbox"/> | 11.17 |
| 13.61 | <input type="checkbox"/> | 13.72 | 24.77 | <input type="checkbox"/> | 24.51 | 20.83 | <input type="checkbox"/> | 21.69 |
| 1.65  | <input type="checkbox"/> | 2.06  | 22.68 | <input type="checkbox"/> | 21.88 | 14.35 | <input type="checkbox"/> | 14.82 |
| 13.65 | <input type="checkbox"/> | 13.03 | 6.36  | <input type="checkbox"/> | 5.45  | 24.22 | <input type="checkbox"/> | 24.14 |
| 5.11  | <input type="checkbox"/> | 4.97  | 17.75 | <input type="checkbox"/> | 17.34 | 5.77  | <input type="checkbox"/> | 6.26  |
| 21.74 | <input type="checkbox"/> | 21.11 | 16.05 | <input type="checkbox"/> | 15.78 | 5.44  | <input type="checkbox"/> | 5.28  |

Tenths



# Reading Decimals from Scales.

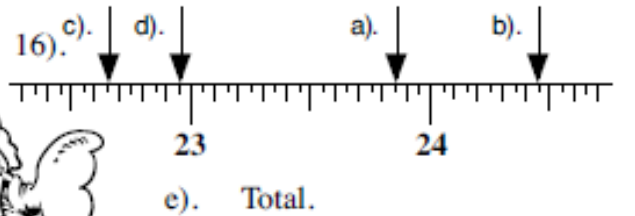
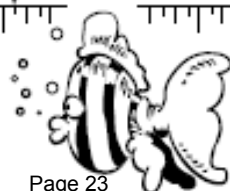
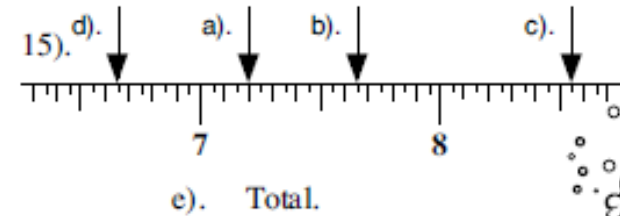
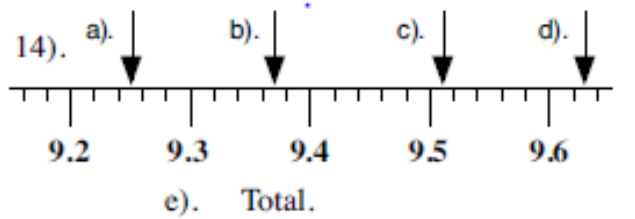
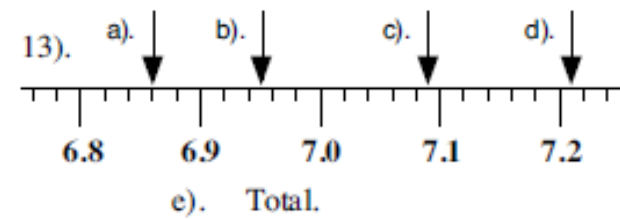
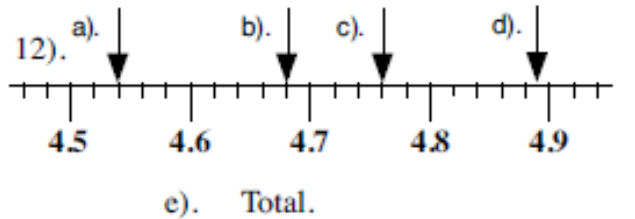
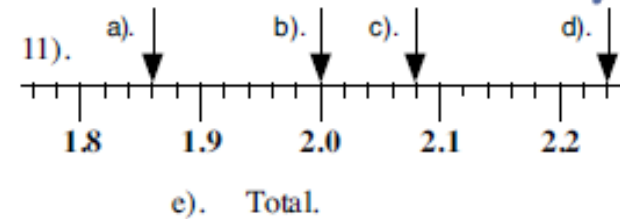
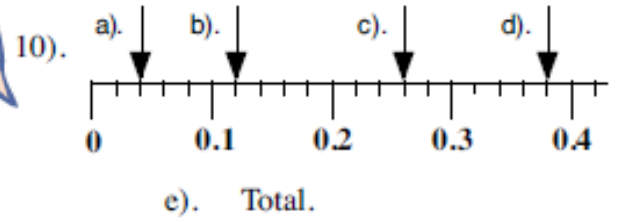
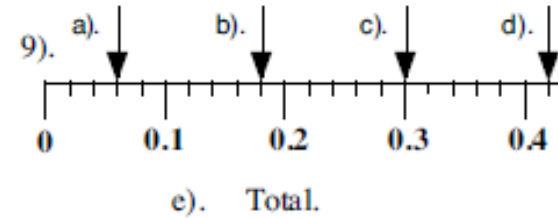
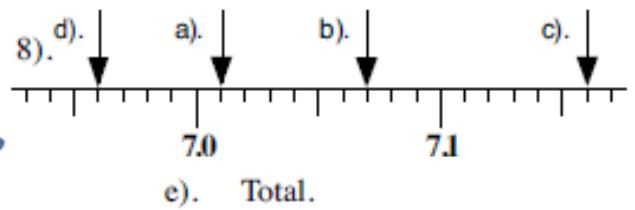
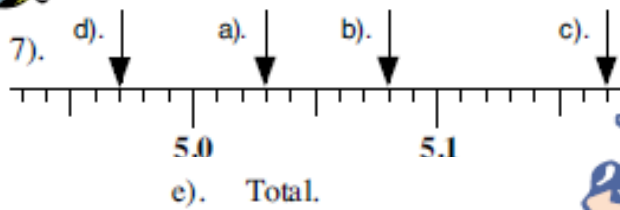
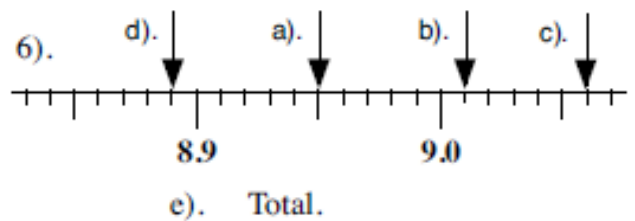
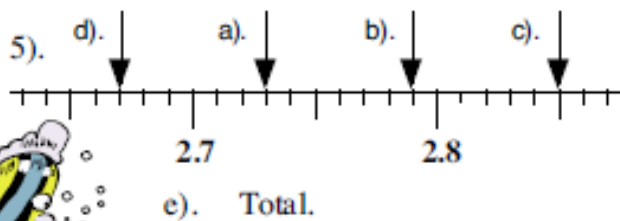
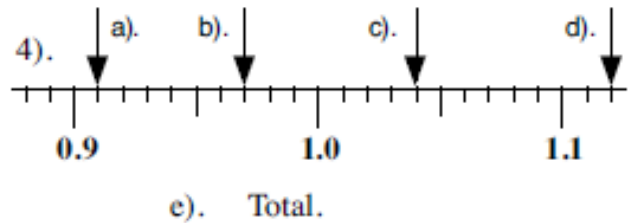
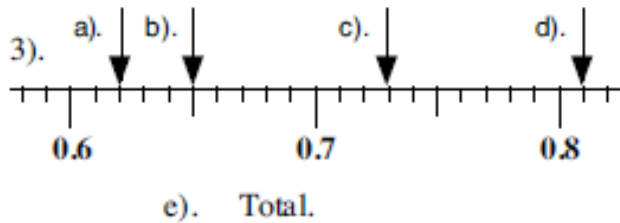
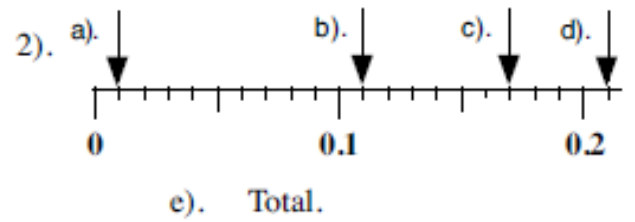
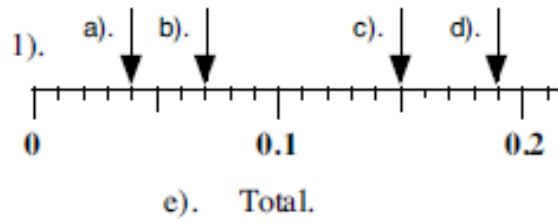
Write down the 4 readings from each scale.  
Add them together to find the total.



# Hundredths



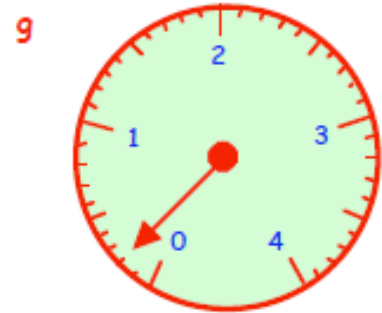
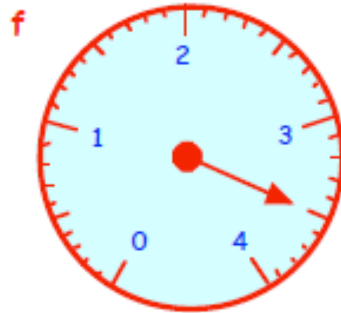
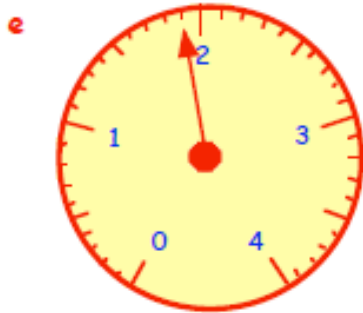
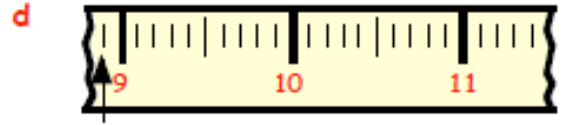
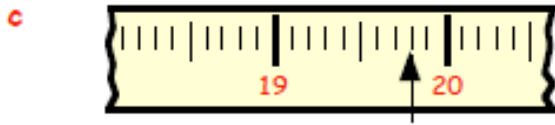
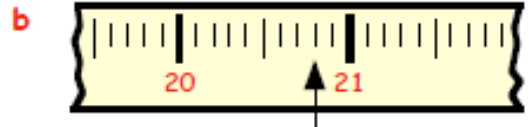
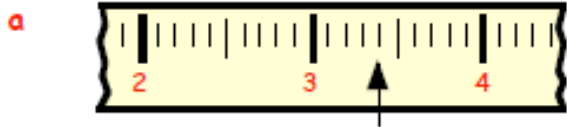
Write down the 4 readings from each scale.  
Add them together to find the total.



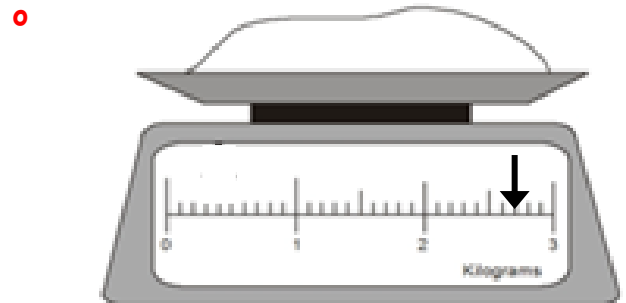
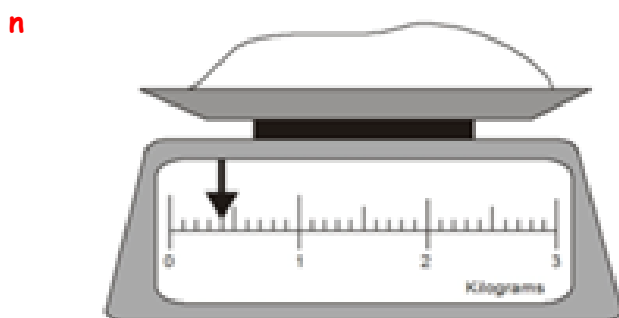
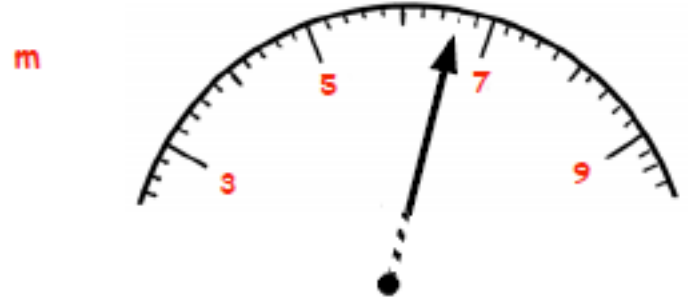
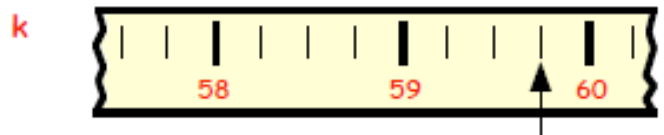
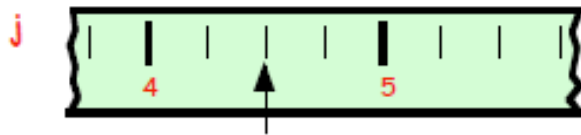
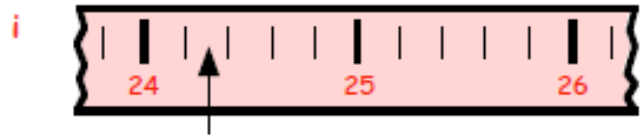
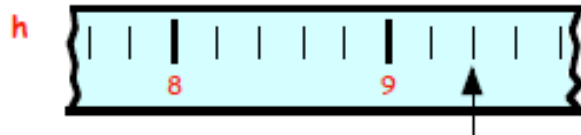


# Decimal Scales

1. Say what number each of these arrows is pointing to :-

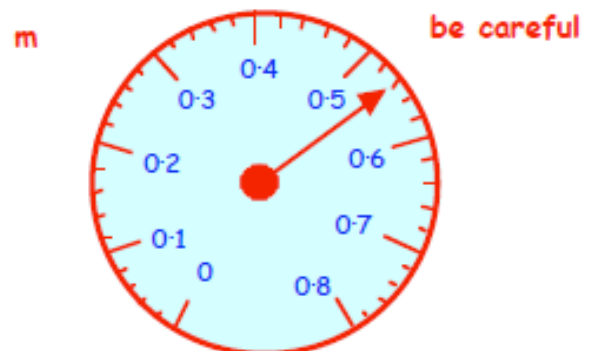
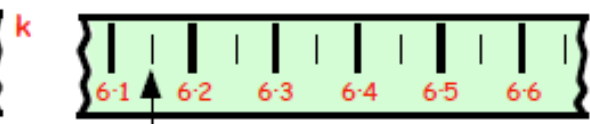
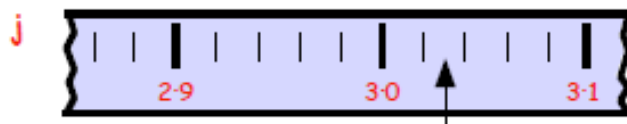
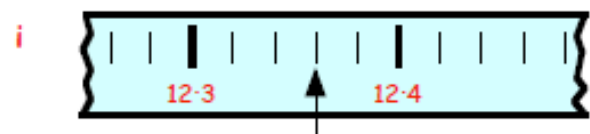
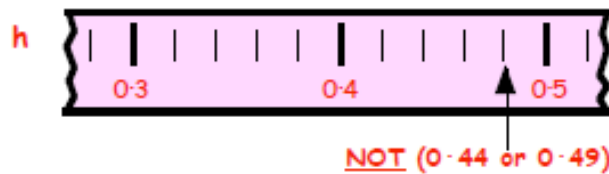
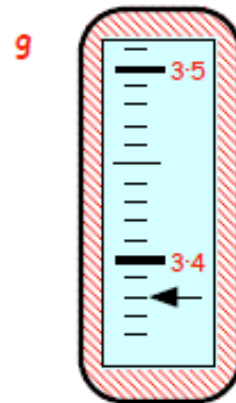
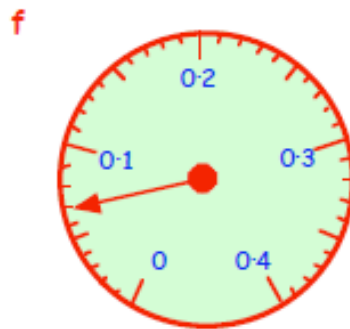
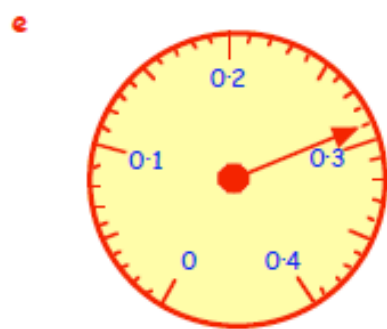
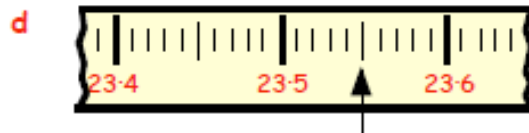
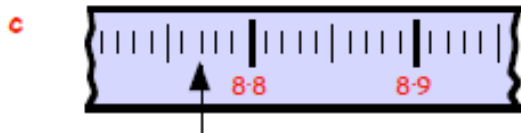
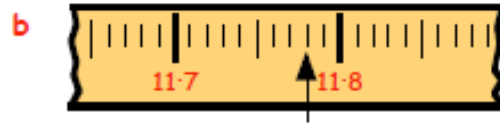
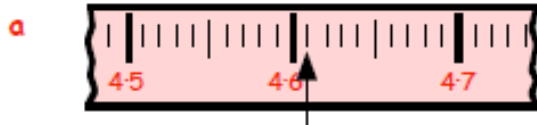


\* careful here



## Decimal Scales

2. To which numbers are each of the following arrows pointing :-



## Workout

Question 1: Work out each of the following multiplications

- |                      |                       |                      |                       |
|----------------------|-----------------------|----------------------|-----------------------|
| (a) $3 \times 10$    | (b) $8 \times 10$     | (c) $12 \times 10$   | (d) $16 \times 10$    |
| (e) $25 \times 10$   | (f) $42 \times 10$    | (g) $78 \times 10$   | (h) $20 \times 10$    |
| (i) $90 \times 10$   | (j) $112 \times 10$   | (k) $203 \times 10$  | (l) $140 \times 10$   |
| (m) $529 \times 10$  | (n) $400 \times 10$   | (o) $1925 \times 10$ | (p) $3500 \times 10$  |
| (q) $2710 \times 10$ | (r) $50000 \times 10$ | (s) $6204 \times 10$ | (t) $99099 \times 10$ |

Question 2: Work out each of the following multiplications

- |                        |                         |                        |                        |
|------------------------|-------------------------|------------------------|------------------------|
| (a) $0.2 \times 10$    | (b) $0.8 \times 10$     | (c) $0.1 \times 10$    | (d) $1.3 \times 10$    |
| (e) $5.8 \times 10$    | (f) $15.1 \times 10$    | (g) $20.5 \times 10$   | (h) $357.4 \times 10$  |
| (i) $0.06 \times 10$   | (j) $0.14 \times 10$    | (k) $0.42 \times 10$   | (l) $3.07 \times 10$   |
| (m) $0.009 \times 10$  | (n) $0.0053 \times 10$  | (o) $0.105 \times 10$  | (p) $0.0381 \times 10$ |
| (q) $3.4905 \times 10$ | (r) $0.25801 \times 10$ | (s) $400.05 \times 10$ | (t) $122.08 \times 10$ |

Question 3: Work out each of the following multiplications

- |                       |                       |                       |                        |
|-----------------------|-----------------------|-----------------------|------------------------|
| (a) $4 \times 100$    | (b) $7 \times 100$    | (c) $15 \times 100$   | (d) $28 \times 100$    |
| (e) $30 \times 100$   | (f) $90 \times 100$   | (g) $165 \times 100$  | (h) $593 \times 100$   |
| (i) $520 \times 100$  | (j) $203 \times 100$  | (k) $400 \times 100$  | (l) $100 \times 100$   |
| (m) $2000 \times 100$ | (n) $3902 \times 100$ | (o) $2030 \times 100$ | (p) $40001 \times 100$ |

Question 4: Work out each of the following multiplications

- |                        |                         |                          |                        |
|------------------------|-------------------------|--------------------------|------------------------|
| (a) $0.3 \times 100$   | (b) $0.9 \times 100$    | (c) $0.02 \times 100$    | (d) $0.05 \times 100$  |
| (e) $0.15 \times 100$  | (f) $0.23 \times 100$   | (g) $5.8 \times 100$     | (h) $4.13 \times 100$  |
| (i) $3.08 \times 100$  | (j) $0.822 \times 100$  | (k) $0.606 \times 100$   | (l) $0.004 \times 100$ |
| (m) $320.4 \times 100$ | (n) $2.3802 \times 100$ | (o) $0.00351 \times 100$ | (p) $105.1 \times 100$ |

## Multiplication by 10, 100, 1000

Video 202 on [www.corbettmaths.com](http://www.corbettmaths.com)

Question 5: Work out each of the following multiplications

- (a)  $5 \times 1000$       (b)  $9 \times 1000$       (c)  $18 \times 1000$       (d)  $45 \times 1000$   
(e)  $40 \times 1000$       (f)  $70 \times 1000$       (g)  $200 \times 1000$       (h)  $595 \times 1000$   
(i)  $710 \times 1000$       (j)  $909 \times 1000$       (k)  $900 \times 1000$       (l)  $1000 \times 1000$   
(m)  $8000 \times 1000$       (n)  $5800 \times 1000$       (o)  $5040 \times 1000$       (p)  $60000 \times 1000$

Question 6: Work out each of the following multiplications

- (a)  $0.2 \times 1000$       (b)  $0.8 \times 1000$       (c)  $1.4 \times 1000$       (d)  $8.3 \times 1000$   
(e)  $0.06 \times 1000$       (f)  $0.007 \times 1000$       (g)  $17.5 \times 1000$       (h)  $30.9 \times 1000$   
(i)  $4.45 \times 1000$       (j)  $0.48 \times 1000$       (k)  $0.033 \times 1000$       (l)  $0.0081 \times 1000$   
(m)  $0.403 \times 1000$       (n)  $0.2002 \times 1000$       (o)  $1.0934 \times 1000$       (p)  $93.0491 \times 1000$

Question 7: Work out each of the following multiplications

- (a)  $76 \times 10$       (b)  $230 \times 100$       (c)  $3 \times 1000$       (d)  $52 \times 1000$   
(e)  $6 \times 100$       (f)  $352 \times 10$       (g)  $4.5 \times 100$       (h)  $0.9 \times 10$   
(i)  $25 \times 100$       (j)  $8001 \times 1000$       (k)  $4.1 \times 1000$       (l)  $0.75 \times 10$   
(m)  $3.5 \times 100$       (n)  $50.89 \times 100$       (o)  $0.018 \times 100$       (p)  $0.679 \times 1000$   
(q)  $0.888 \times 10$       (r)  $3094.5 \times 100$       (s)  $255.21 \times 10$       (t)  $39.001 \times 1000$   
(u)  $3.005 \times 10$       (v)  $0.005 \times 100$       (w)  $8900 \times 100$       (x)  $0.011 \times 1000$   
(y)  $94.6 \times 100$       (z)  $4.99 \times 1000$

Apply

Question 1: Natalie saves £100 a month towards a new car.  
How much money will she have saved after 11 months?



## Multiplication by 10, 100, 1000

Video 202 on [www.corbettmaths.com](http://www.corbettmaths.com)

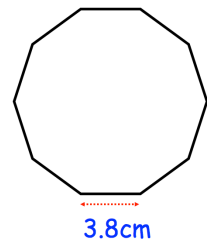
Question 2: A box contains 10 eggs.  
Hilary needs 68 eggs.  
How many boxes of eggs should she buy?

Question 3: A ticket for a charity concert costs £10.  
231 tickets are sold.  
How much money is raised for charity?

Question 4: A box of drawing pins contains 100 pins.  
How many drawing pins are there in 40 boxes?

Question 5: (a) How many years are there in 15 centuries?  
(b) How many years are there in 8 decades?  
(c) How many years are there in 4 millennia?

Question 6: The decagon below is regular, which means that all sides are the same length.  
Work out the perimeter of the decagon.



Question 7: Shown below are some questions and answers.  
Match each question and correct answer.  
The first one has been completed for you.

$0.032 \times 10$	32
$3.2 \times 10$	0.32
$0.32 \times 10$	3.2
$0.32 \times 1000$	3200
$32 \times 100$	320

A line connects  $0.032 \times 10$  to 0.32.

Question 8: Write down the value of the 2 in the answer to  $7.025 \times 1000$

Question 9: A coffee shop sells cups of coffee in 0.3 litre cups.  
In one week they sell 10000 cups of coffee.  
How many litres of coffee do they sell in one week?

Workout

Question 1: Work out each of the following divisions

- |                    |                   |                    |                    |
|--------------------|-------------------|--------------------|--------------------|
| (a) $30 \div 10$   | (b) $90 \div 10$  | (c) $120 \div 10$  | (d) $250 \div 10$  |
| (e) $800 \div 10$  | (f) $380 \div 10$ | (g) $4000 \div 10$ | (h) $1600 \div 10$ |
| (i) $9 \div 10$    | (j) $2 \div 10$   | (k) $1 \div 10$    | (l) $7 \div 10$    |
| (m) $72 \div 10$   | (n) $15 \div 10$  | (o) $93 \div 10$   | (p) $219 \div 10$  |
| (q) $3414 \div 10$ | (r) $109 \div 10$ | (s) $2015 \div 10$ | (t) $870 \div 10$  |
| (u) $0.6 \div 10$  | (v) $0.3 \div 10$ | (w) $0.15 \div 10$ | (x) $0.08 \div 10$ |

Question 2: Work out each of the following divisions

- |                      |                      |                     |                     |
|----------------------|----------------------|---------------------|---------------------|
| (a) $200 \div 100$   | (b) $500 \div 100$   | (c) $900 \div 100$  | (d) $1400 \div 100$ |
| (e) $4800 \div 100$  | (f) $6200 \div 100$  | (g) $3000 \div 100$ | (h) $1000 \div 100$ |
| (i) $17000 \div 100$ | (j) $53000 \div 100$ | (k) $2810 \div 100$ | (l) $9145 \div 100$ |
| (m) $180 \div 100$   | (n) $375 \div 100$   | (o) $520 \div 100$  | (p) $70 \div 100$   |
| (q) $40 \div 100$    | (r) $17 \div 100$    | (s) $5 \div 100$    | (t) $2 \div 100$    |
| (u) $2.9 \div 100$   | (v) $0.8 \div 100$   | (w) $0.35 \div 100$ | (x) $4.2 \div 100$  |

Question 3: Work out each of the following divisions

- |                          |                        |                       |                       |
|--------------------------|------------------------|-----------------------|-----------------------|
| (a) $4000 \div 1000$     | (b) $7000 \div 1000$   | (c) $16000 \div 1000$ | (d) $86000 \div 1000$ |
| (e) $50000 \div 1000$    | (f) $370000 \div 1000$ | (g) $1900 \div 1000$  | (h) $4250 \div 1000$  |
| (i) $5833 \div 1000$     | (j) $900 \div 1000$    | (k) $820 \div 1000$   | (l) $41 \div 1000$    |
| (m) $2 \div 1000$        | (n) $13 \div 1000$     | (o) $9 \div 1000$     | (p) $0.3 \div 1000$   |
| (q) $1.55 \div 1000$     | (r) $0.51 \div 1000$   | (s) $0.02 \div 1000$  | (t) $3.08 \div 1000$  |
| (u) $67000000 \div 1000$ | (v) $0.045 \div 1000$  |                       |                       |

Question 4: Work out each of the following divisions

- (a)  $56 \div 10$       (b)  $48000 \div 100$       (c)  $3 \div 1000$       (d)  $52 \div 1000$   
 (e)  $6 \div 100$       (f)  $312 \div 10$       (g)  $4.5 \div 100$       (h)  $0.9 \div 10$   
 (i)  $25 \div 100$       (j)  $8001 \div 1000$       (k)  $4.1 \div 1000$       (l)  $0.75 \div 10$   
 (m)  $3.5 \div 100$       (n)  $50.89 \div 100$       (o)  $0.018 \div 100$       (p)  $0.679 \div 1000$   
 (q)  $0.888 \div 10$       (r)  $3094.5 \div 100$       (s)  $255.21 \div 10$       (t)  $39.001 \div 1000$

Apply

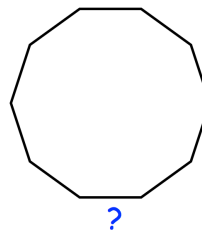
Question 1: Vicky saves £10 each week.  
She wants to buy a violin that costs £180  
How many weeks will it take Vicky to save enough money?

Question 2: Barry prints booklets that each have 100 pages.  
In total, he prints 6000 pages.  
How many booklets did Barry print?

Question 3: A box of staples contains 1000 staples.  
A secretary wants to order 3000000 staples.  
How many boxes of staples should they order?

Question 4: A decagon has 10 sides.  
The decagon below is regular, which means that all sides are the same length.  
Work out the length of each side of the decagon.

Perimeter = 48cm



Question 5: A bakery makes 2600 cupcakes in a week.  
The cupcakes are placed into boxes of 10.  
Each box of cupcakes is sold for £3.  
How much money does the bakery make for selling the cupcakes?

Question 6: Work out the missing numbers

(a)   $\times 10 = 0.009$

(b)   $\times 100 = 0.53$

## Workout

Question 1: Work out the answers to the following multiplications

- (a)  $1.2 \times 4$       (b)  $3.2 \times 3$       (c)  $5.3 \times 2$       (d)  $7.3 \times 3$   
(e)  $1.6 \times 4$       (f)  $2.9 \times 5$       (g)  $4.2 \times 6$       (h)  $9.5 \times 7$   
(i)  $6.7 \times 8$       (j)  $3.8 \times 9$       (k)  $12.8 \times 3$       (l)  $24.3 \times 4$   
(m)  $37.5 \times 6$       (n)  $52.8 \times 7$       (o)  $173.2 \times 3$       (p)  $215.8 \times 6$   
(q)  $1243.7 \times 9$       (r)  $79.5 \times 8$

Question 2: Work out the answers to the following multiplications

- (a)  $1.26 \times 2$       (b)  $2.63 \times 3$       (c)  $5.14 \times 3$       (d)  $6.28 \times 4$   
(e)  $7.53 \times 5$       (f)  $0.38 \times 8$       (g)  $9.62 \times 6$       (h)  $12.38 \times 7$   
(i)  $16.42 \times 9$       (j)  $109.34 \times 4$       (k)  $9.08 \times 3$       (l)  $12.04 \times 7$   
(m)  $0.383 \times 3$       (n)  $1.442 \times 6$       (o)  $8.291 \times 3$       (p)  $9.623 \times 5$   
(q)  $3.706 \times 8$       (r)  $4.953 \times 7$       (s)  $0.482 \times 8$       (t)  $0.085 \times 7$   
(u)  $1.3842 \times 3$       (v)  $4.3342 \times 6$       (w)  $8.2039 \times 5$       (x)  $7.3112 \times 9$   
(y)  $512.83 \times 6$       (z)  $293.421 \times 4$

Question 3: Work out the answers to the following multiplications

- (a)  $1.24 \times 13$       (b)  $2.51 \times 17$       (c)  $12.5 \times 23$       (d)  $3.28 \times 21$   
(e)  $6.35 \times 35$       (f)  $7.65 \times 37$       (g)  $58.2 \times 46$       (h)  $4.23 \times 52$   
(i)  $0.28 \times 57$       (j)  $0.817 \times 63$       (k)  $38.43 \times 19$       (l)  $5.45 \times 87$   
(m)  $12.32 \times 73$       (n)  $2.3 \times 123$       (o)  $4.7 \times 253$       (p)  $8.6 \times 351$   
(q)  $2.03 \times 152$       (r)  $1.02 \times 607$



Question 4: Work out the answers to the following multiplications

- (a)  $0.2 \times 0.3$     (b)  $0.7 \times 0.2$     (c)  $0.9 \times 0.4$     (d)  $0.8 \times 0.6$   
(e)  $0.7 \times 0.7$     (f)  $0.6 \times 0.5$     (g)  $0.8 \times 0.5$     (h)  $0.5 \times 0.4$   
(i)  $0.8 \times 0.1$     (j)  $0.07 \times 0.5$     (k)  $0.04 \times 0.2$     (l)  $0.8 \times 0.07$   
(m)  $0.06 \times 0.9$     (n)  $0.04 \times 0.06$     (o)  $0.08 \times 0.03$     (p)  $0.02 \times 0.03$   
(q)  $0.003 \times 0.6$     (r)  $0.9 \times 0.002$     (s)  $0.008 \times 0.6$     (t)  $0.005 \times 0.4$   
(u)  $0.007 \times 0.02$     (v)  $0.008 \times 0.09$     (w)  $0.04 \times 0.004$     (x)  $0.005 \times 0.003$   
(y)  $0.008 \times 0.05$     (z)  $0.009 \times 0.008$

Question 5: Work out the answers to the following multiplications

- (a)  $3.1 \times 0.5$     (b)  $6.3 \times 0.3$     (c)  $5.4 \times 0.7$     (d)  $9.2 \times 0.6$   
(e)  $4.8 \times 0.9$     (f)  $2.4 \times 3.2$     (g)  $9.1 \times 1.3$     (h)  $5.5 \times 7.7$   
(i)  $1.7 \times 4.3$     (j)  $9.4 \times 4.9$     (k)  $0.13 \times 0.7$     (l)  $0.48 \times 0.3$   
(m)  $0.54 \times 0.9$     (n)  $0.18 \times 0.17$     (o)  $8.3 \times 0.37$     (p)  $3.5 \times 0.74$   
(q)  $0.94 \times 0.02$     (r)  $0.38 \times 0.06$     (s)  $0.039 \times 0.7$     (t)  $0.084 \times 1.2$   
(u)  $8.1 \times 0.05$     (v)  $9.4 \times 0.082$     (w)  $0.0048 \times 0.12$

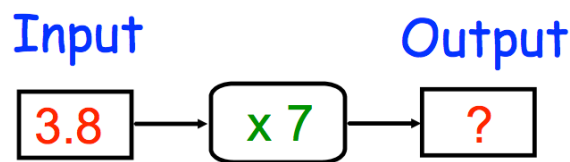
Question 6: Work out the answers to the following multiplications

- (a)  $1.29 \times 1.4$     (b)  $3.52 \times 2.4$     (c)  $4.92 \times 0.34$     (d)  $8.12 \times 0.29$   
(e)  $6.3 \times 2.46$     (f)  $9.2 \times 7.15$     (g)  $0.843 \times 1.9$     (h)  $0.548 \times 2.7$   
(i)  $6.18 \times 5.1$     (j)  $18.2 \times 6.4$     (k)  $5.03 \times 2.8$     (l)  $40.8 \times 5.3$

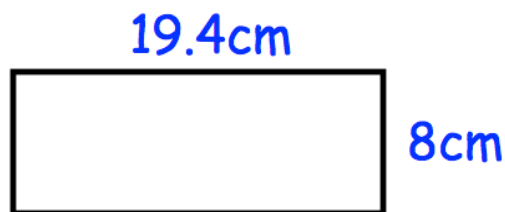
## Apply

Question 1: Regan is paid £6.70 per hour. He works 8 hours in a week.  
Work out how much Regan should be paid.

Question 2: Calculate the output



Question 3: Calculate the area of the rectangle



Question 4: A bottle of cola costs £1.29  
Calculate the total cost of 6 bottles of cola.



Question 5: Mr and Mrs Jones bring their 5 children to a museum.

Adults	£17.60 each
Children	£7.55 each

Work out the total cost for the family.

Question 6: Class 8A are going on a trip to a windmill.



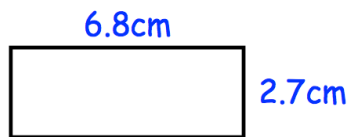
The trip costs £3.70 each and there are 26 students in 8A.  
How much money should be collected?

Question 7: Mr.Jenkins is building a fence for his garden.  
The fence costs £12.60 per metre to build.  
The fence is 5.3 metres long.



Work out the total cost of building the fence.

Question 8: Calculate the area of this rectangle.



Question 9: Here are the prices of some fruit in a shop.



£0.97 per kilogram



£1.07 per kilogram



£1.46 per kilogram

Find the total cost of 1.2kg of apples, 3.5kg of oranges and 1.9kg of bananas.

### Workout

Question 1: Work out

- |                   |                   |                   |                   |
|-------------------|-------------------|-------------------|-------------------|
| (a) $4.6 \div 2$  | (b) $6.5 \div 5$  | (c) $9.6 \div 3$  | (d) $8.4 \div 4$  |
| (e) $7.2 \div 3$  | (f) $6.8 \div 4$  | (g) $18.5 \div 5$ | (h) $9.6 \div 8$  |
| (i) $14.4 \div 6$ | (j) $27.9 \div 9$ | (k) $9.1 \div 7$  | (l) $36.5 \div 5$ |
| (m) $33.2 \div 4$ | (n) $19.2 \div 3$ | (o) $27.6 \div 6$ | (p) $42.4 \div 8$ |

Question 2: Work out

- |                    |                    |                     |                      |
|--------------------|--------------------|---------------------|----------------------|
| (a) $3.96 \div 3$  | (b) $0.75 \div 5$  | (c) $8.56 \div 4$   | (d) $0.528 \div 6$   |
| (e) $5.81 \div 7$  | (f) $0.657 \div 9$ | (g) $2.176 \div 8$  | (h) $0.238 \div 7$   |
| (i) $0.119 \div 7$ | (j) $0.072 \div 6$ | (k) $2.556 \div 3$  | (l) $3.325 \div 5$   |
| (m) $701.2 \div 4$ | (n) $9.927 \div 9$ | (o) $12.065 \div 5$ | (p) $0.16024 \div 4$ |

Question 3: Work out

- |                    |                    |                   |                   |
|--------------------|--------------------|-------------------|-------------------|
| (a) $1.3 \div 2$   | (b) $2.9 \div 2$   | (c) $1.4 \div 5$  | (d) $24.3 \div 5$ |
| (e) $5.4 \div 4$   | (f) $0.038 \div 5$ | (g) $1.4 \div 8$  | (h) $2.13 \div 6$ |
| (i) $0.284 \div 8$ | (j) $54.3 \div 6$  | (k) $47.5 \div 8$ | (l) $7.42 \div 3$ |

Question 4: Work out the following divisions

- |                     |                     |                      |                     |
|---------------------|---------------------|----------------------|---------------------|
| (a) $8.4 \div 12$   | (b) $0.143 \div 11$ | (c) $34.5 \div 15$   | (d) $0.322 \div 14$ |
| (e) $2.266 \div 22$ | (f) $7.68 \div 12$  | (g) $0.56 \div 16$   | (h) $15.75 \div 25$ |
| (i) $2.12 \div 40$  | (j) $77.25 \div 75$ | (k) $0.9936 \div 23$ | (l) $3.52 \div 110$ |

## Apply

Question 1: Four friends share £6.52 equally.  
How much do they each receive?

Question 2: James has 3.65m of rope into 5 pieces of equal length.  
How long is equal piece of rope?



Question 3: The perimeter of a square is 53.3cm.  
Work out the length of equal side.



Perimeter = 53.3cm

Question 4: SuperSaver sells 6 eggs for £1.14  
TopBuys sells 8 eggs for £1.68  
BestBuys sells 12 eggs for £2.64

Which shop is best value?

Question 5: Roger is organising a trip to a museum.  
The total price of the tickets is £103.50  
The total price for the coach is £64.80  
If nine people are going on the trip, how much should they pay each?



Question 6: A shop charges 12p to photocopy one page in full colour.  
Sam has photocopied some pages in colour and the total cost is £16.08  
How many pages did he photocopy?



Question 7: The perimeter of a regular octagon is 4.096cm  
Calculate the length of each side.



**Determine the placement of the decimal in each product.**

$$5.809 \times 7.8 = 45.3102$$

1. Count the quantity of numbers to the right of the decimal for each factor.

5.809 has 3 numbers right of the decimal (5.809)

7.8 has 1 number right of the decimal (7.8)

2. Add the amounts together. Your answer should have the same quantity of numbers to the right of the decimal.

$$3 + 1 = 4$$

$$5.\underline{089} (3) \times 7.\underline{8} (1) = 45.\underline{3102} (4)$$

Also notice that  $5 \times 7 = 35$  and  $6 \times 8 = 48$ , so  $5.809 \times 7.8$  will be a more than 35 but less than 48.

- 1)  $5.7 \times 7 =$                     3 9 9
- 2)  $7.67 \times 5.444 =$             4 1 7 5 5 4 8
- 3)  $4.1 \times 8.928 =$             3 6 6 0 4 8
- 4)  $3.953 \times 6 =$                 2 3 7 1 8
- 5)  $9.814 \times 4.65 =$             4 5 6 3 5 1 0
- 6)  $9 \times 5.85 =$                  5 2 6 5
- 7)  $9.4 \times 3 =$                   2 8 2
- 8)  $4 \times 3.91 =$                  1 5 6 4
- 9)  $7.81 \times 9 =$                  7 0 2 9
- 10)  $8.479 \times 5.5 =$             4 6 6 3 4 5
- 11)  $4.137 \times 7.2 =$             2 9 7 8 6 4
- 12)  $6.7 \times 1.494 =$             1 0 0 0 9 8
- 13)  $3.5 \times 5 =$                  1 7 5
- 14)  $3.5 \times 6 =$                  2 1 0
- 15)  $8.2 \times 6.651 =$             5 4 5 3 8 2
- 16)  $9.6 \times 5.98 =$             5 7 4 0 8
- 17)  $1.89 \times 8.7 =$              1 6 4 4 3
- 18)  $4.539 \times 4.12 =$            1 8 7 0 0 6 8
- 19)  $6.947 \times 3.99 =$            2 7 7 1 8 5 3
- 20)  $1.57 \times 6 =$                 9 4 2

## Decimal Multiplication

1. Calculate:

- |                      |                      |                      |                      |
|----------------------|----------------------|----------------------|----------------------|
| (a) $0.3 \times 20$  | (b) $0.7 \times 30$  | (c) $0.8 \times 60$  | (d) $0.4 \times 40$  |
| (e) $0.9 \times 50$  | (f) $0.6 \times 70$  | (g) $0.4 \times 80$  | (h) $0.3 \times 90$  |
| (i) $0.13 \times 30$ | (j) $0.18 \times 50$ | (k) $0.37 \times 20$ | (l) $0.24 \times 40$ |
| (m) $0.16 \times 60$ | (n) $0.64 \times 80$ | (o) $0.55 \times 80$ | (p) $0.38 \times 70$ |

2. Calculate:

- |                      |                      |                        |                        |
|----------------------|----------------------|------------------------|------------------------|
| (a) $1.6 \times 30$  | (b) $1.3 \times 20$  | (c) $2.7 \times 40$    | (d) $5.8 \times 80$    |
| (e) $8.1 \times 60$  | (f) $7.7 \times 90$  | (g) $1.23 \times 20$   | (h) $1.35 \times 50$   |
| (i) $2.42 \times 40$ | (j) $3.64 \times 80$ | (k) $9.31 \times 60$   | (l) $8.48 \times 90$   |
| (m) $7.33 \times 30$ | (n) $6.04 \times 50$ | (o) $412.43 \times 20$ | (p) $16.743 \times 70$ |

3. Calculate:

- |                       |                       |                       |                       |
|-----------------------|-----------------------|-----------------------|-----------------------|
| (a) $0.4 \times 200$  | (b) $0.8 \times 300$  | (c) $0.3 \times 600$  | (d) $0.5 \times 400$  |
| (e) $0.7 \times 500$  | (f) $0.2 \times 700$  | (g) $0.6 \times 800$  | (h) $0.9 \times 900$  |
| (i) $0.18 \times 300$ | (j) $0.26 \times 500$ | (k) $0.77 \times 200$ | (l) $0.47 \times 400$ |
| (m) $0.32 \times 600$ | (n) $0.87 \times 800$ | (o) $0.99 \times 800$ | (p) $0.08 \times 700$ |

4. Calculate:

- |                        |                         |                         |                          |
|------------------------|-------------------------|-------------------------|--------------------------|
| (a) $2.4 \times 200$   | (b) $3.6 \times 300$    | (c) $1.9 \times 600$    | (d) $8.5 \times 400$     |
| (e) $4.4 \times 500$   | (f) $6.2 \times 700$    | (g) $1.65 \times 800$   | (h) $3.26 \times 900$    |
| (i) $4.77 \times 3000$ | (j) $3.58 \times 5000$  | (k) $8.58 \times 2000$  | (l) $9.07 \times 4000$   |
| (m) $1.353 \times 600$ | (n) $4.625 \times 8000$ | (o) $13.682 \times 800$ | (p) $425.14 \times 7000$ |

5. Calculate:

- |                       |                        |                        |                           |
|-----------------------|------------------------|------------------------|---------------------------|
| (a) $0.4 \times 40$   | (b) $5.2 \times 200$   | (c) $4.82 \times 600$  | (d) $0.16 \times 30$      |
| (e) $13.4 \times 500$ | (f) $0.57 \times 90$   | (g) $3.6 \times 700$   | (h) $6.28 \times 90$      |
| (i) $0.9 \times 2000$ | (j) $24.54 \times 60$  | (k) $0.71 \times 400$  | (l) $8.8 \times 3000$     |
| (m) $2.49 \times 80$  | (n) $13.437 \times 50$ | (o) $54.71 \times 900$ | (p) $154.743 \times 8000$ |

6. A school buys 80 calculators at £5.85 each. What is the total cost?

7. What is the total weight of a pack of 500 nails each weighing 1.6g?

8. A tourist receives £0.82 for every dollar she exchanges.

How much (in pounds) will she receive if she exchanges \$3000?

9. A charity sells 400 badges and makes a profit of £2.40 on each one.

How much will it raise in total?

10. A fruit picker can gather in an average of 13.8kg of fruit per day.

What weight of fruit will be picked on a farm with 70 fruit pickers?

11. Calculate the total cost of this building project:

20 sheets of plywood at £14.25 per sheet

80 wood joists at £9.50 each

300 aluminium brackets at £1.59 each

5000 wood screws at £2.15 for a box of 100.

## Decimal Division (and Multiplication)

1. Calculate:

- |                     |                     |                      |                      |
|---------------------|---------------------|----------------------|----------------------|
| (a) $82 \div 20$    | (b) $66 \div 30$    | (c) $138 \div 60$    | (d) $172 \div 40$    |
| (e) $185 \div 50$   | (f) $469 \div 70$   | (g) $344 \div 80$    | (h) $711 \div 90$    |
| (i) $185.1 \div 30$ | (j) $137.5 \div 50$ | (k) $229.4 \div 20$  | (l) $409.6 \div 40$  |
| (m) $226.2 \div 60$ | (n) $367.2 \div 90$ | (o) $201.36 \div 80$ | (p) $1082.9 \div 70$ |

2. Calculate:

- |                   |                     |                     |                     |
|-------------------|---------------------|---------------------|---------------------|
| (a) $27 \div 30$  | (b) $18 \div 60$    | (c) $8 \div 20$     | (d) $42 \div 70$    |
| (e) $36 \div 40$  | (f) $35.5 \div 50$  | (g) $25.2 \div 90$  | (h) $52.8 \div 80$  |
| (i) $96 \div 50$  | (j) $12.48 \div 20$ | (k) $16.2 \div 90$  | (l) $27.3 \div 70$  |
| (m) $2.4 \div 60$ | (n) $219.2 \div 80$ | (o) $22.84 \div 40$ | (p) $3.936 \div 60$ |

3. Calculate:

- |                     |                     |                      |                      |
|---------------------|---------------------|----------------------|----------------------|
| (a) $82 \div 20$    | (b) $66 \div 30$    | (c) $138 \div 60$    | (d) $172 \div 40$    |
| (e) $185 \div 50$   | (f) $469 \div 70$   | (g) $344 \div 80$    | (h) $711 \div 90$    |
| (i) $185.1 \div 30$ | (j) $137.5 \div 50$ | (k) $229.4 \div 20$  | (l) $409.6 \div 40$  |
| (m) $226.2 \div 60$ | (n) $367.2 \div 90$ | (o) $201.36 \div 80$ | (p) $1082.9 \div 70$ |

4. Calculate:

- |                      |                     |                      |                      |
|----------------------|---------------------|----------------------|----------------------|
| (a) $720 \div 300$   | (b) $360 \div 200$  | (c) $1280 \div 400$  | (d) $180 \div 300$   |
| (e) $300 \div 500$   | (f) $1050 \div 700$ | (g) $180 \div 600$   | (h) $280 \div 400$   |
| (i) $1000 \div 800$  | (j) $2205 \div 900$ | (k) $60 \div 500$    | (l) $3780 \div 700$  |
| (m) $7200 \div 2000$ | (n) $150 \div 3000$ | (o) $4000 \div 5000$ | (p) $1940 \div 4000$ |

5. 40 identical crates are loaded onto a truck.  
The total weight of the crates is 224kg. How much does each crate weigh?
6. A spindle of 30 blank CDs costs £22.50. How much does 1 CD cost?
7. A bottle contains 360ml of medicine. It states that this is enough for 80 doses.  
How many millilitres is one dose of medicine?
8. A book containing 200 pages is 2.82cm thick. How thick is one page?
9. A company buys 50 containers at £15.50 each. What is the total cost?
10. A pack of 100 drawing pins weighs 18.2g.  
What is the weight of one drawing pin?
11. A shop sells 200 cans of Irn Bru in a month and makes a profit of £0.26 on each can. How much profit does the shop make on selling the cans that month?
12. A farmer constructs a sheep pen from 40 identical sections of fencing.  
The total perimeter of the pen is 92 metres.  
How long is each section of fencing?
13. On a fruit farm, 589.4kg of fruit is picked by 70 pickers.  
What is the average weight of fruit picked by each worker?