

# National 5 Lifeskills Maths

## Numeracy Revision

1. The population of Edinburgh is increasing at a steady rate of 1.8% per annum.  
The population is 495 000 at present. What is the expected population in four years' time?  
*Give your answer correct to three significant figures.* (4)
2. Chloe bought a flat in Dundee costing £103 500. It depreciated in value by 2.3% for each of the next 3 years.  
How much is Chloe's flat now worth? *Give your answer to two significant figures.* (4)
3. Michael's annual salary is £32 700. His boss tells him that his salary will increase by 1.4% per annum.  
What will Michael's annual salary be after 3 years? *Give your answer to the nearest pound.* (4)
4. It is estimated that an iceberg weighs 68 000 tonnes. As the iceberg moves into warmer water, its weight decreases by 25% each day. What will the iceberg weigh after 5 days in the warmer water?  
*Give your answer correct to three significant figures.* (4)
5. An Easter egg manufacturer produces a chocolate egg which weighs 260 grams. The weight of the Easter egg box and packaging is 78 grams.  
To transport the Easter eggs they are packaged in trays of 68 boxes. A retailer orders 40 trays of the Easter eggs. The manufacturer's delivery van can take a maximum load of 1 tonne.  
  
Can the retailers order be delivered in one van load? Use your calculations to justify your answer. (2)
6. A water company sells its product in 400 millilitre bottles. Each empty bottle weighs 60 grams.  
  
To transport the full bottles, they are packaged on palettes of 112 bottles.  
A supermarket orders 20 palettes of water bottles. The manufacturer's delivery van can take a maximum load of 1 tonne.  
  
1 litre of water weighs 1 kilogram. Can the supermarket's order be delivered in one van load?  
Use your calculations to justify your answer. (3)
7. Fraser and Kyle are going to Belgium on holiday. They book flights for £82 return per person.  
  
In Belgium, they hire a caravan for 3 weeks. The caravan costs 314.5 euros per week.  
  
Find the total cost of their holiday in pounds. (£1 = 1.28 Euros) (3)

8. The McNeill family were on holiday in Spain.

At the start of their holiday they change £1200 into Euros.  
The rate of exchange is £1 = 1.37 Euros.

While in Spain they spent 1536 Euros.

They have returned home and want to change their remaining Euros back into pounds Sterling.  
The exchange rate is now £1 = 1.42 Euros.

How much will they get for their remaining Euros? (The bank will only change the money in multiples of 10 Euros). (4)

9. (a) Before he went on holiday to Australia, Jack changed £3000 into Australian dollars.  
The exchange rate was £1 = AU\$1.72. How many Australian dollars did Jack receive for £3000? (1)

(b) While in Australia he changed a further £600 into Australian dollars. He received AU\$978.  
What was the new exchange rate? (2)

10. A room in the Broadway Plaza Hotel in New York costs 320 dollars per night plus 17% tax.  
The exchange rate is 1.62 dollars to the pound.  
Find the cost of the room per night.  
Give your answer in pounds and pence. (3)

11. Mr and Mrs Kubica book a cruise to Bruges for themselves and their three children.

- They depart on 13 June
- Mr and Mrs Kubica share an outside cabin and their three children share an inside cabin
- There is a 20% discount for each child.

Calculate the total cost of the cruise. (2)

Mini Cruise to Bruges, Belgium		
	Price per person	
Departure Date	Inside Cabin (£)	Outside Cabin (£)
16 May	236	250
30 May	244	274
13 June	266	300
27 June	275	310
12 July	291	325
26 July	312	355
9 Aug	327	370

12. (a) The Eurostar train leaves Paris, France at 11:27 local time and arrives in London, Great Britain at 13:08 local time. The time in Britain is one hour behind the time in France.

How long did the train journey take? (2)

(b) There are three types of seats available on the Eurostar train: Standard, Standard Premier and Business Premier.

Fares (in euros) for 1 adult are shown in the table.

Standard		Standard Premier		Business Premier
Non-flexible	Semi-flexible	Non-flexible	Semi-flexible	Fully flexible
€207.50	€220	€240.50	€262	€329

Children up to age 12 pay 70% of the adult fare.

Travel insurance is also available as shown in the table below.

Travel insurance	€40 per person
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Children up to age 12 pay 50% of the insurance premiums.

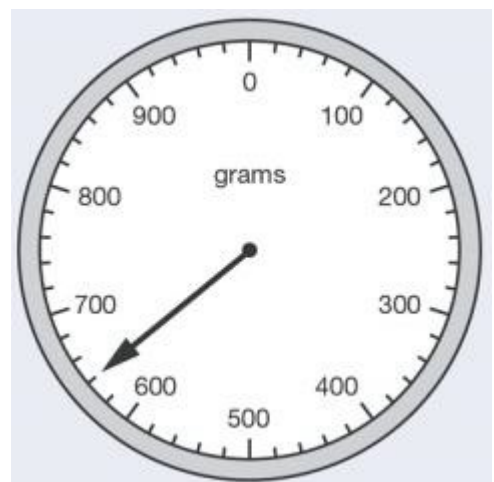
A 6 euro fee will be added to all credit card transactions.

Mr and Mrs Dubois and their two children aged 6 and 11 want to travel from Paris to London on the Eurostar train.

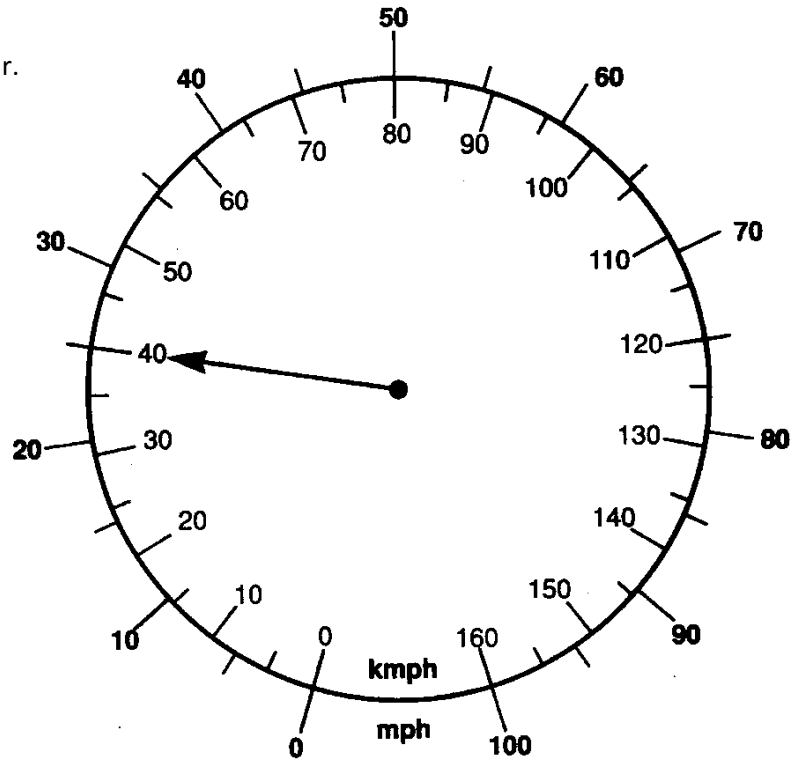
- ◆ They decide to buy Standard, semi-flexible tickets.
- ◆ They also buy travel insurance for all four people in their party.
- ◆ They pay by credit card.
- ◆ They have budgeted 800 euros for travel costs.

Have they budgeted enough for travel costs? (4)

13. What weight is shown on the scale? (1)



14. The diagram shows the speedometer in a car.



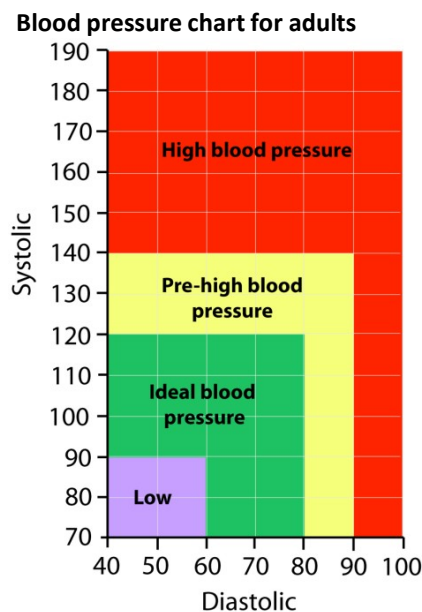
The outer scale shows the speed in miles per hour (mph) and the inner scale shows the speed in kilometres per hour (kmph).

(a) What is the reading shown in miles per hour shown on the speedometer? (1)

(b) The maximum speed for motorway driving is 70 miles per hour.

Use the speedometer scales to find this speed in kilometres per hour. (1)

15. The blood pressure chart shows ranges of high, low and healthy blood pressure readings.



David has his blood pressure taken. The Diastolic and Systolic results are shown below.



Explain what this tells David about his blood pressure. (1)

16. Work out:

a)  $\frac{1}{8} + \frac{5}{8}$    b)  $\frac{1}{4} + \frac{1}{3}$    c)  $\frac{1}{6} + \frac{2}{3}$    d)  $\frac{1}{2} + \frac{2}{5}$    e)  $\frac{3}{5} + \frac{1}{3}$    f)  $\frac{3}{8} + \frac{2}{3}$  (6)

17. In class 2A it was found that  $\frac{1}{4}$  of the pupils walk to school and  $\frac{2}{3}$  come by bus or car. The rest of the pupils cycle. What fraction of the pupils cycle to school? (2)

18. To make purple paint, Francis mixes red and blue in the ratio 2 : 5. If Francis uses 20 litres of blue, how many litres of red paint must he use? (1)

19. Sisters Rose and Lily inherit £8000 from their late Grandfather. The inheritance money has to be shared in the ratio 3 : 1 with the eldest sister Rose getting the larger share. How much money do Rose and Lily each receive? (2)

20. Three steel nails are shown below.



The lengths of the nails are in the ratio 1 : 3 : 5. The length of the middle nail is 7.8 centimetres.

Calculate the length of the large nail. (2)

21. For the commonwealth games closing ceremony there were three categories of seat available. Type X seats were the cheapest, type Y seats the middle price and type Z seats the most expensive. The most expensive seats at the ceremony were £90.

The ratio of seat prices was  $X : Y : Z = 3 : 5 : 9$ .

a) What is the price of each type of seat? (2)

b) The ratio of the number of each type of seat was  $X : Y : Z = 4 : 3 : 1$ .  
There was a sell out crowd of 48 000 tickets.  
Calculate the total amount taken in ticket sales. (2)

22. There are 2 yellow, 3 red, 1 blue and 4 orange cubes in a bag.

(a) Jason takes a cube from the bag. What is the probability that it is orange? (1)

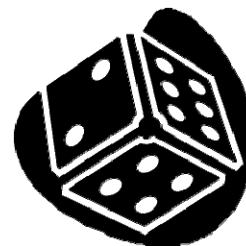
(b) The cube is replaced in the bag and 3 white cubes are added to the bag.  
What is the probability that the next cube taken from the bag is not red? (1)

23. There are 4 girls and 14 boys in a class.

A child is chosen at random and is asked to roll a die, numbered 1 to 6.

Which of these is more likely?

A: the child is female.



OR

B: the child rolls a 4.

**Justify your answer.** (1)

24. Fifty people took part in a Health Promotion Campaign. They were asked whether or not they smoked cigarettes. The following table summarises the responses.

	Smoker	Non Smoker
Male	3	21
Female	8	18

What is the probability that a person chosen at random from this group is

- (a) male;  
(b) a smoker;  
(c) a female who smokes? (3)

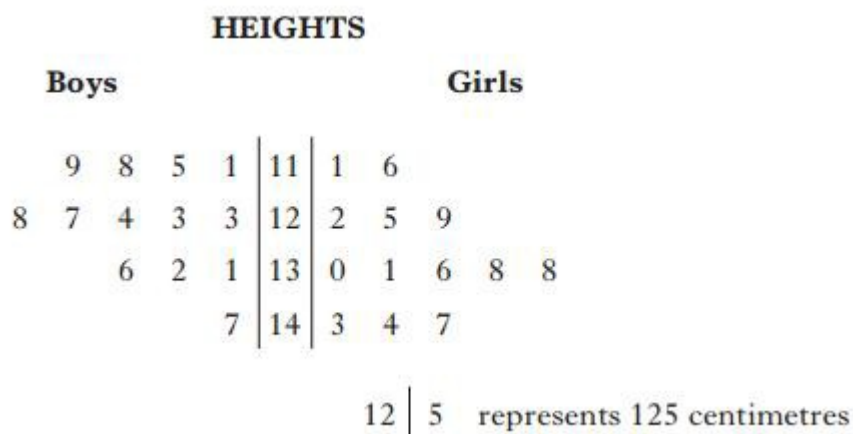
25. The local council has compiled the following information about 500 properties and their owners:

Age	Type of Property		
	Flat	Semi-detached	Bungalow
Under 50	105	87	33
50 +	168	66	41

- (a) What is the probability that a house, chosen at random, is owned by someone over 50 years old? (1)
- (b) There are 2500 properties in a housing estate.  
How many would you expect to be both semi-detached **and** owned by someone over 50? (2)

26. A retailer orders tins of soup in boxes of 80.  
The probability of a box containing at least one bashed tin is 0.012.  
The retailer finds that in a delivery of 10 boxes of soup, 12 tins contained at least one bash.  
Is this more or less than expected? Use your working to explain your answer. (2)

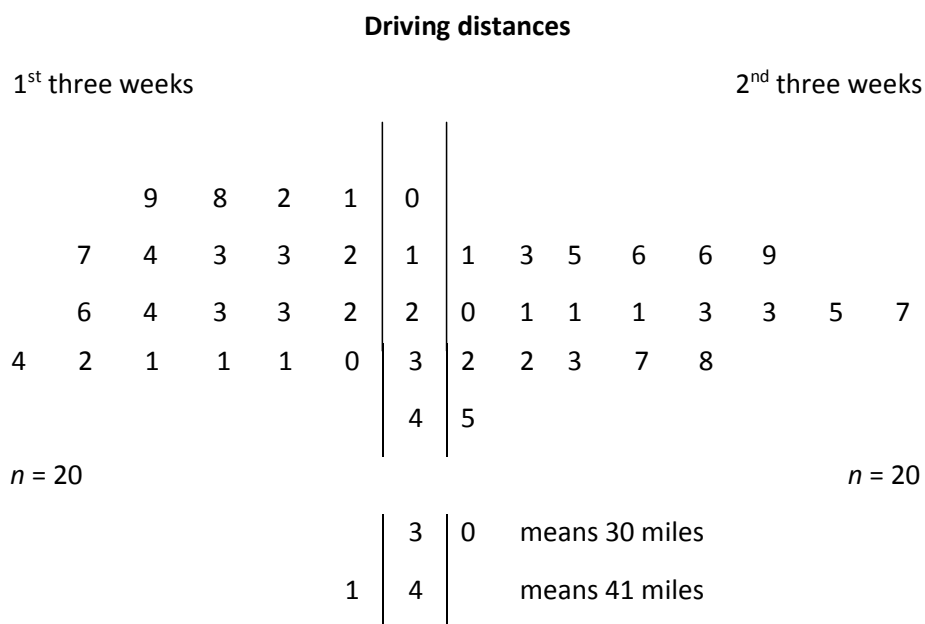
27. The stem and leaf diagram below shows the heights of both the boys and the girls in a class.



- a) What is the height of the shortest person? (1)
- b) By working out the mean, compare the heights of the boys with the girls in this class. (2)

28. Before buying a car, Lee recorded how far she drove in six weeks on a daily basis.

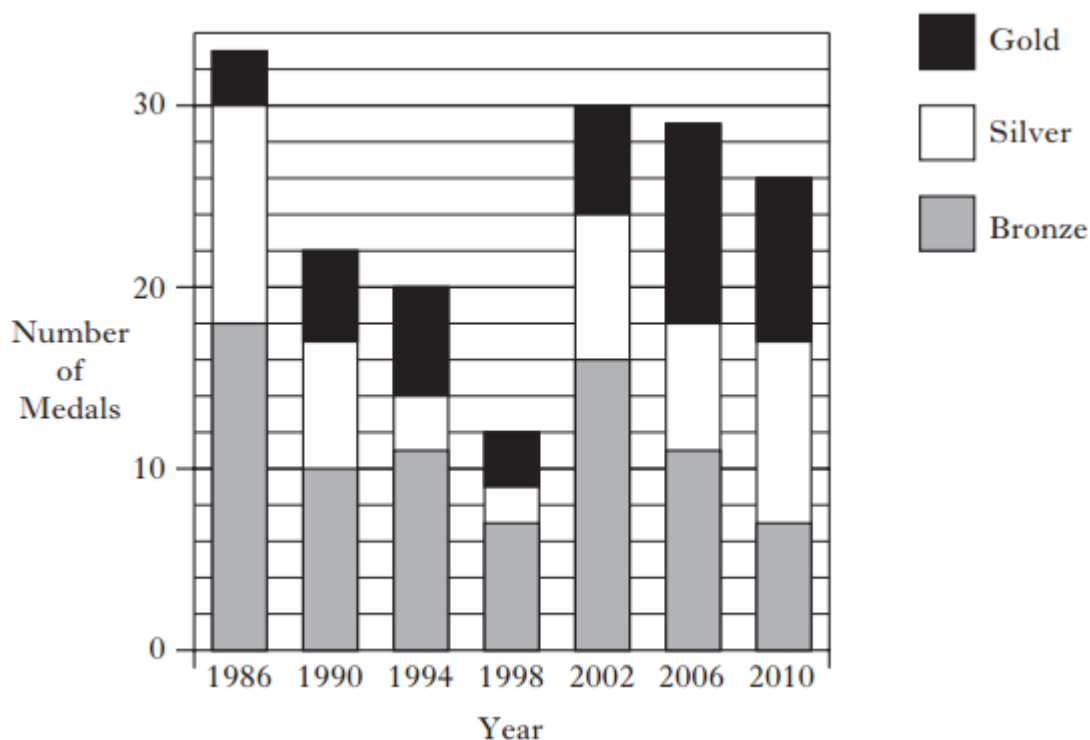
The back-to-back stem-and-leaf diagram below shows how far Lee drove each day in the first three weeks, and second three weeks.



(a) For the second three weeks of driving calculate the mean distance. (1)

(b) For the first three weeks of driving the mean distance was 19.8.  
 Comment on the distances driven in the first three weeks and the second three weeks. (1)

29. The bar graph shows the number of medals won by Scotland at the Commonwealth Games since 1986.





(a) In which year were most gold medals won by Scotland? (1)

(b) How many silver medals did Scotland win in 1990? (1)

31. Stacey conducts a survey to find the most popular crisp flavour.

- 28 pupils voted for Ready Salted
- 12 pupils voted for Pickled Onion
- 5 pupils voted for Prawn Cocktail

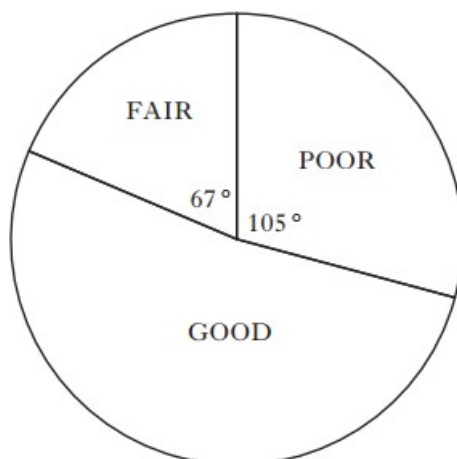
Stacey wishes to draw a pie chart to illustrate his data.

How many degrees must he use for each sector (ie. each flavour) in his pie chart?

Do not draw the pie chart.

(2)

33. The pie chart shows the results of a customer satisfaction survey carried out by Red Talk Media, a broadband



service provider, in 2012.

A total of 3780 customers took part in the survey.

How many customers said that the service provided was good?

(3)

## Answers

1. 532 000
2. £97 000
3. £34 093
4. 16 100
5. Yes as  $919.36 \text{ kg} < 1000 \text{ kg}$  (1 tonne)
6. No as  $1030.4 \text{ kg} > 1000 \text{ kg}$  (1 tonne)
7. £901.10
8. £70.42
9. a) AU\$5160                      b) £1 = AU\$1.63
10. £231.11                      11. £1320
12. a) 2hrs 41mins    b) No as this costs 874 which is 74 euros over.
13. 640 grams
14. a) 25mph                      b) 112 km/h
15. Sys = 132, Dia = 78, it looks like David could have Pre-high blood pressure.
16. a)  $\frac{6}{8} = \frac{3}{4}$                       b)  $\frac{7}{12}$     c)  $\frac{5}{6}$     d)  $\frac{9}{10}$     e)  $\frac{25}{24}$  or  $1\frac{1}{24}$
17.  $\frac{1}{12}$
18. 8 litres
19. Rose = £6000, Lily = £2000
20. 13 cm
21. a) X = £30, Y = £50, Z = £90                      b) £2 160 000
22. a)  $\frac{4}{10} = \frac{2}{5}$                       b)  $\frac{10}{13}$
23. A is more likely as  $0.22 > 0.16$
24. a)  $\frac{24}{50} (= \frac{12}{25})$                       b)  $\frac{11}{50}$                       c)  $\frac{8}{50} (= \frac{4}{25})$
25. a)  $\frac{275}{500} (= \frac{11}{20})$                       b) 330
26. More than expected as  $0.015 > 0.012$
27. a) 111 cm                      b) On average the girls in the class are taller as mean is  $131.5 > 125.7$
28. a) 24.4                      b) The first 3 weeks were shorter journeys on average as mean  $19.8 < 24.4$
29. a) 2006                      b) 7
30. a) 40%                      b) 10-14 as more than 80% of both male and female went once or more than once.
31. Ready Salted =  $224^\circ$ , Pickled Onion =  $96^\circ$ , Prawn Cocktail =  $40^\circ$
32. 640
33. 1974