Baldragon Academy

Mathematics

National 4 Numeracy Revision

1) Calculate the following:

   a) Lucy saw a trousers in Top Look priced at £85 as it was their summer sale there was 20% off. How much would the trousers cost her?

   b) A jug was left sitting on a windowsill it held 4 litres of water. Whilst sitting in the sunshine, 15% of the water evaporated. How much water is now in the jug?

   c) Neil weighed 70 kg. After dieting for 3 months he had lost 15% of his original weight. What does Neil weigh now?

   d) The temperature during a summer's day was 24°C at noon by 8pm the temperature had dropped by 25% what was the temperature at 8pm?

2) Calculate the following:

   a) A box for cans of juice weighs 150g. It is designed to hold 30 cans when it is full it weighs 11100g. How much does one can weigh?

   b) A taxi charges a call out fee of £3.25. If a 50 mile fare comes to £42.25 how much are the company charging per mile?

   c) Joe is paid by the hour and he can keep any tips he makes. On Saturday the earned £32.40 in tips and he is paid £4 per hour. If he earned £56.40 how many hours did he work for?

   d) A glass jar weighs 500 grams when empty. When filled with 200 hard boiled sweets it weighs 2.5kg. How much does one sweet weigh?

3) Using the table solve:

Country	Currency	£1 buys
Europe	Euro €	1.42
USA	US Dollars $	1.62
Switzerland	Swiss Francs	2.04
Japan	Yen	183.33

   a) Ryan is going on the school Paris trip. His mum gives him £60 to change in to euros. How many Euros should he get?
   b) Emma buys a top for £50 when she is in America. How many dollars did is cost her?
   c) Kirsty wants to take £650 to Japan. How many Yen is this?
   d) Max buys his friend francs for his holidays. If he buys £40 worth how many francs did he get?

4) Complete the timetables for the train lines:

a) Holiday express

Depart	Arrive	Duration
9.20	11.43	
10.12		2hrs 7 min
	13.25	2hr 30 min

b) Highland Lines

Depart	Arrive	Duration
10.20	16.05	
	18.20	6hrs 25min
20.20		4 hrs 5min

c) Steam Runs

Depart	Arrive	Duration
10.05	13.00	
	15.24	2hrs 52min
13.48		2hrs 52min

d) Flying Scot

Depart	Arrive	Duration
4.45am	6.20am	
7.05am		1hr 35 min
	9.20 am	1hr 30 min

5) Find the perimeter of the following shapes:
   a) a

3 m

2.5 m

5 m

9 m

b)

0.5 m

2.5 m

6 m

0.5 m

0.5 m

5 m
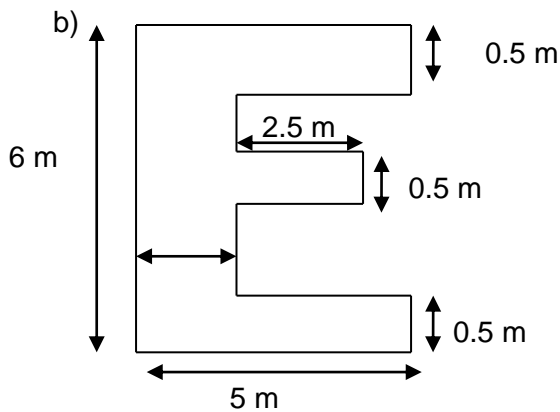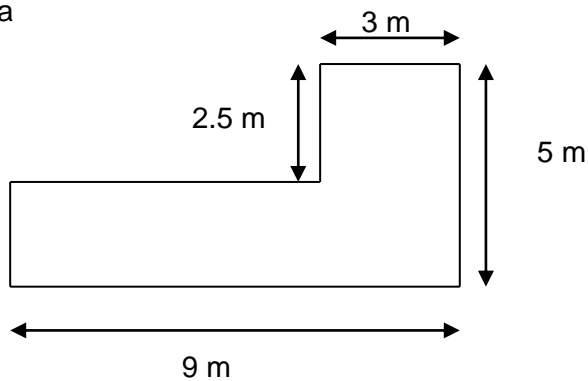
Frank has 27m of skirting.

Will he have enough skirting for the room?

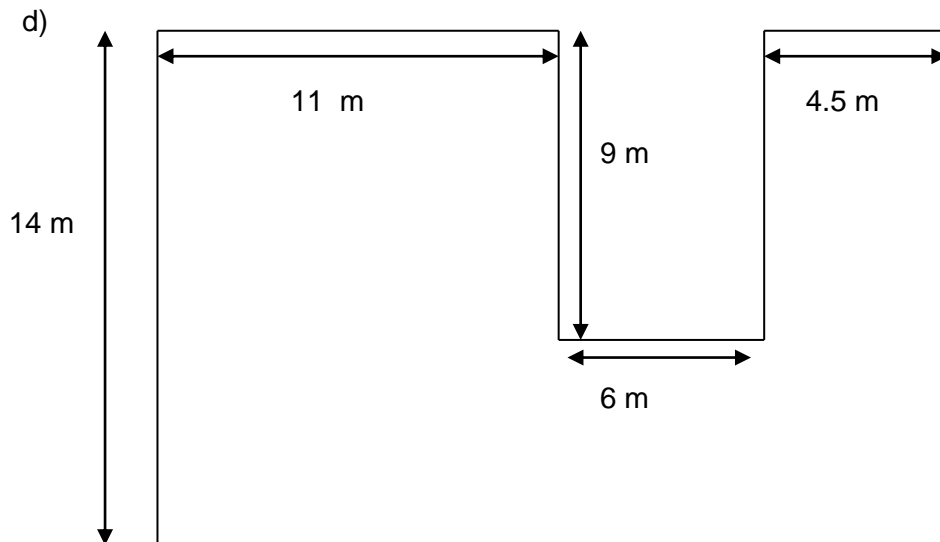Explain your answer.

R

12 m

c)

4.5 m

10 m

5 m
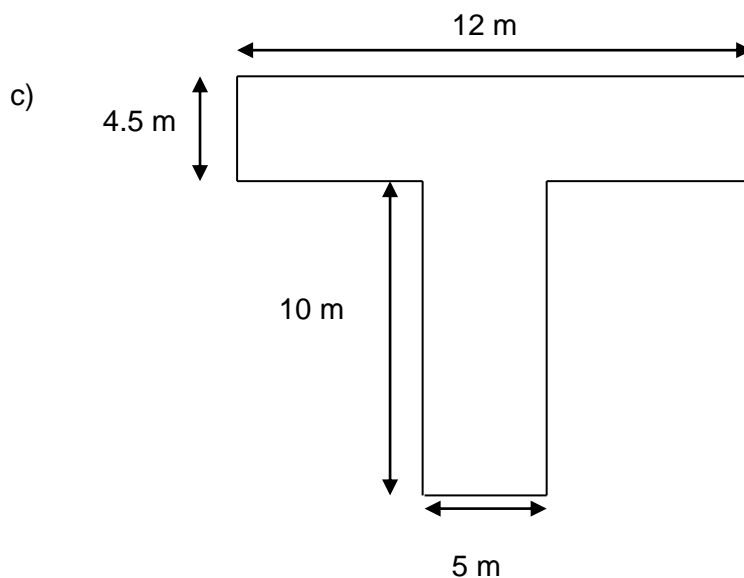
Gillian has 35 m of border.

Will she have enough border for the room?

Explain your answer.

R

d)

I have 55m of coving for the room. Will I gave enough coving? Explain.   R

6)
   a) A policeman followed a seventeen year old student who drove 55km in half an hour. What was the student's average speed?
   b) A hot air balloon travelled 75 miles at an average speed of 30 miles per hour. How long did it take to complete its journey?
   c) A small boat sailing at a steady rate of 18 km/hr, takes 3 ½ hrs to travel from Arran to the mainland. What is the length of the journey?
   d) A pilot took off from an airfield at 0745 and flow North-East to a meeting point, arriving there at 0945. If the aircraft travelled 320 miles, what was its average speed?

7)
   a) Share £80 between Bill and Ben in the ratio of 3:1.

   b) Share £26000 between Sophie and Texas in the ratio of 7:6.

   c) A soup kitchen sends soup to Gretna and Carlisle in the ratio of 2:4. On Tuesday the kitchen made 150 portions of soup. How many are sent to Gretna?

   d) The results of 60 football games were recorded. The ratio of home wins to draws to away wins was 7 : 5 : 3. Of the 60 results, how many were home wins?

   e) Hilary and George are given £34 000 in the ration of 3 : 5. Hilary got £12 500. Is this correct? Explain.   R

8)

a) On Christmas morning 8am the temperature was -4°C by the time the Queens speech was on at 3pm the temperature had risen to 6°C. What is the difference in temperatures?

b) Liz goes diving and hill walking during her holidays. Whilst diving she reached a distance of 30 miles below sea level. At the peak of the hill she was 48 miles above the sea level. What is the distance in distance?

c) The maximum temperature recorded on mercury is 427°C. The minimum temperature is -92°C. What is the range in temperature on Mercury?

d) In a quiz where you lose points for incorrect answers as well as gaining for correctly answering. Lesley achieved a score of -12 and Martin achieved a score of 24. What is the difference in their scores?

9) Record the scale in each picture below:

a)

b)

Jug A

Jug B

c)
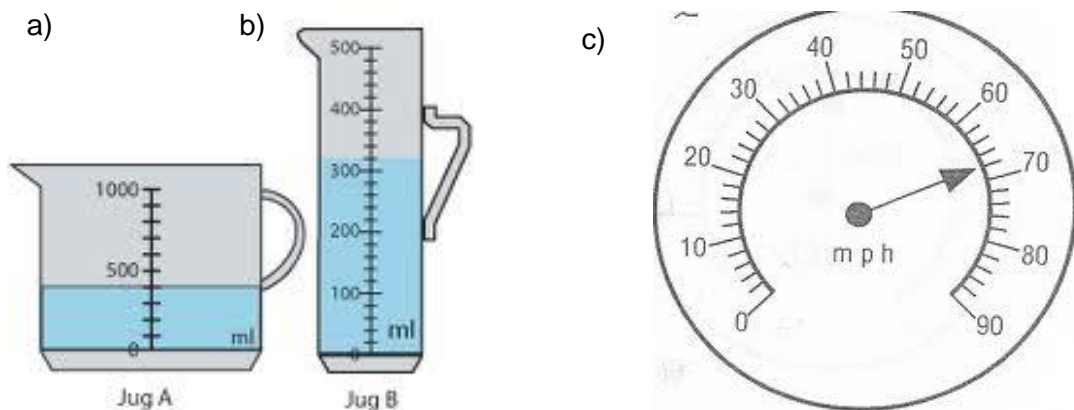
10) For the following questions calculate the i) hire purchase charge and ii) the difference between the hire purchase and cash price:

a) MP4 player

Cash price: £89.99

Or 6 Monthly payments of £16.49

b) Mountain bike

Cash price: £195.49

Or 10 Monthly payments of £22.99

c) Digital Camera
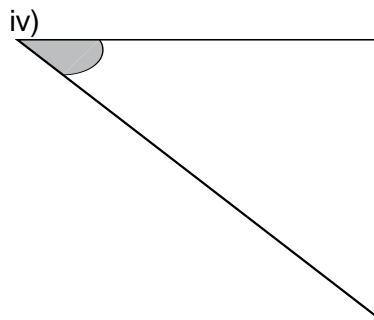
Cash price: £312.95
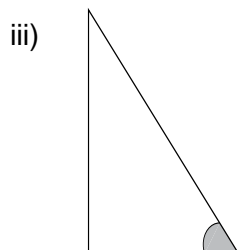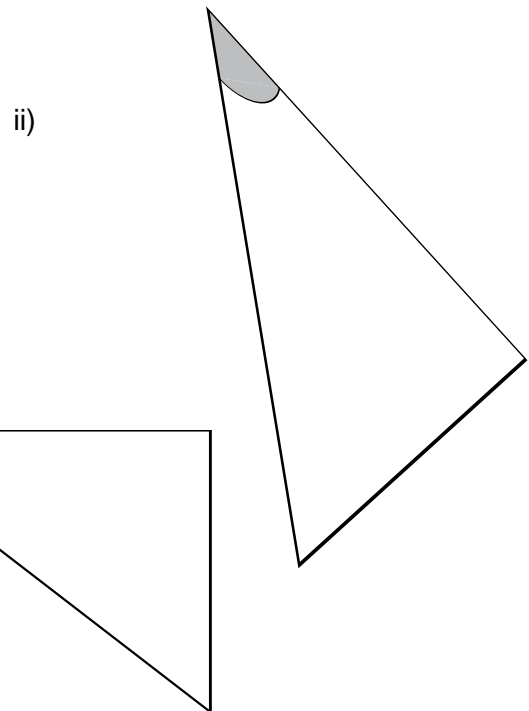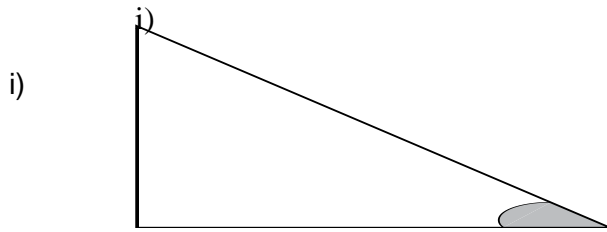
Or 12 Monthly
payments of £27.49

d) Tablet

Cash price: £899.99

Or 24 Monthly
payments of £39.99

11) The triangles below are right-angled.

i)

ii)

iii)

iv)

a) Measure the length of the longest side.
b) Measure the size of the shaded angle.

12) Solve the following problems
 a) To get to a party Lucy and her 9 friends called taxis. They were given two
  options
  Option 1: small taxis which can take 4 people for £5 or
  Option 2: large taxis which can hold 7 people for £8

  Which is the best option and why?

b) On The Trainee show contestants had to package and sell 320 eggs. They could put them in either boxes of £6 and charge £1.25 or boxes of 10 and charge £2 which is better?

c) Apple juice cartons are sold in boxes of 8 in the supermarket. The supermarket's computer says they have 5234 cartons left to sell. How many boxes is that?

d) Steven is running a football competition 114 boys have applied to participate. He wants as many players as possible to play the full game. Should he do an 11 aside or a 7 aside competition? Explain your solution.

13) Glendale High School has a roll of 1800 pupils. The number of pupils in different years is given in the pie chart.

a) How many pupils are in 3rd year?

b) How many pupils are in 5th or 6th year?
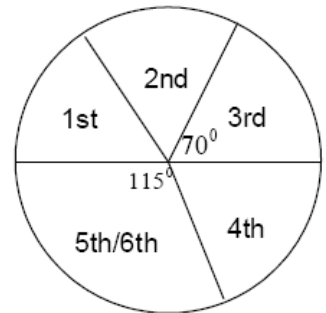
14) During a census, people in Alaska were asked for their region of birth if it was not the United States of America.

The results are shown in the pie chart.

a) What angle represents Asia?

b) What percentage comes from Latin America?

c) If the total number of people not born in the United States was 37100, how many came from Europe?
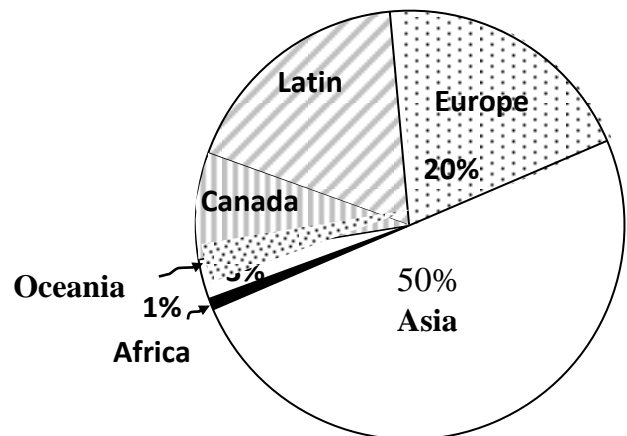
15) The table below shows the amount of yearly interest a selection of banks will pay to a customer on savings.

| Bank	Less than £1000	Between £1000 and £5000	More than £5000
A	1.3%	1.4%	1.6%
B	1.2%	1.3%	1.5%
C	1.4%	1.3%	1.4%
D	1.3%	1.5%	1.5%

a) Katrina wants to deposit £2500 for a year. Which bank will offer her the most interest?

b) David wants to deposit £500 for a year. Which bank will offer him the best deal?

16) A teacher gave their class a similar test once with no preparation and once with preparation. From the graph below how did Peter score without preparation?
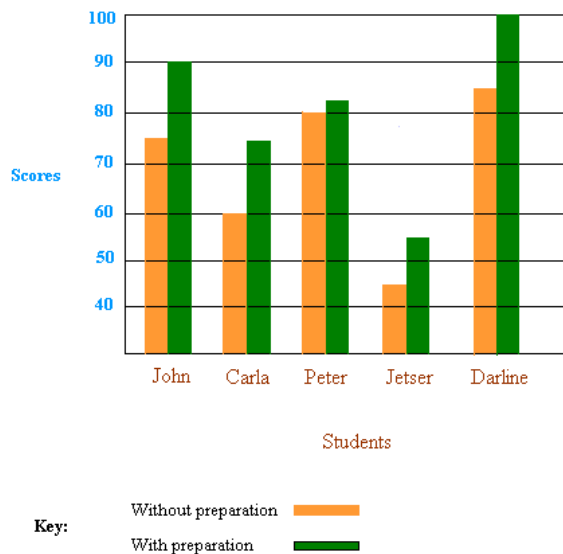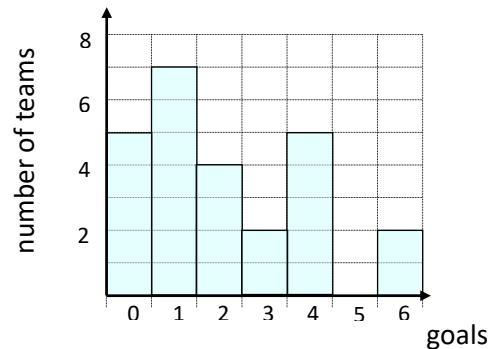
17) Looking at the graph below estimate the attendance and science score of Ben:

School Attendance and Science Grades (Title)
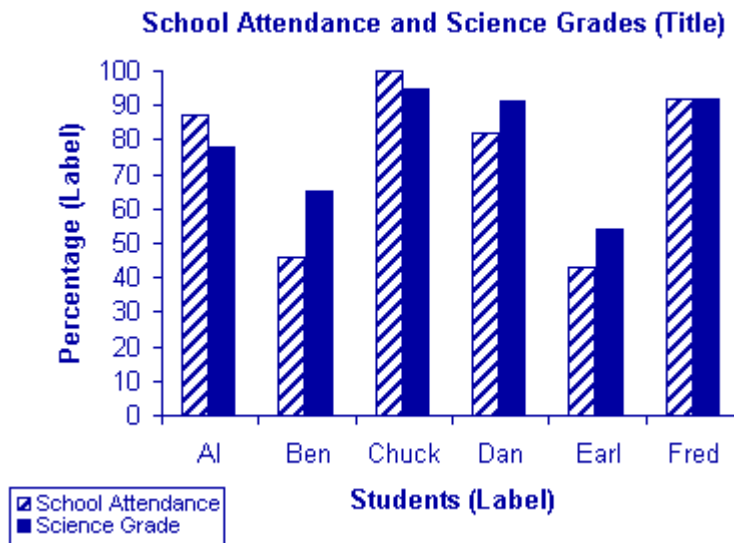
18) The graph opposite shows the number of goals scored by 25 football teams on a particular Saturday.

a) What is the range of goals scored?

b)   How many teams scored 2 goals?

c) How many teams scored more than 3 goals?

19) Three internet, phone and TV companies each have a contract available at the same price.

	Company A	Company B	Company C
Calls (minutes)	100	120	130
Number of TV channels	50	75	88
Internet (Mb)	150	160	140

a) Christina has just moved in to a house and is looking for a package she estimates her usage at: 110 minutes, 145 MB and she would like at least 60 channels which company should she choose?

b) Neil is looking for a new package he estimates his usage at: 90 minutes, 125 MB and he would like at least 60 channels which company should he choose?

c) Andrew is also looking for the best deal he estimates his usage as 60 minutes, 145MB and TV isn't a big priority so he is happy to have 50 free view channels. Which package should he go for?

20)

a) Erin enters her youth group raffle. She buys 14 tickets the group sell 60 tickets, she also buys 20 tickets for the school raffle, and the school sell 75 tickets. Which raffle does she have a better chance of winning?

b) Of the 15 players in a under 20 rugby team only 8 of them will make it to professional rugby.

Of the 20 players in an under 20 football team only 9 of them will make it to professional football.

Which sport are you more likely to make it professional in?

c) Cameron buys to tubes of coloured sweets in tube one there were 15 sweets of which 4 were green. In tube two there were 16 sweets if which 6 were green. Which tube are you most likely to pick a green seat?

d) In June it rained on 12 days, in July it rained for 11 days which month is it more likely be dry?

21)

a) Ryan sat 4 separate tests. Listed below are his results.

English- 45 out of 60

Maths – 21 out of 30

Science- 16 out of 20

History- 18 out of 25

Which subject did he perform best in?

b) Karen scored 14 out of 20 in her maths paper and 30 out of 50 in her French which subject did she do better in?

c) Jason scored 27 out of 54 in his driving test. Lynsey scored 60 out of 80 who performed better?

d) Megan sat 4 separate tests. Listed below are her results.

English- 25 out of 40

Maths – 21 out of 35

Science- 10 out of 25

History- 7 out of 12

Which subject did she perform best in?