



Year 11 Baseline Test

GCSE Foundation Maths Paper 2 (Calculator)

Time allowed: 1 hour 30 minutes (80 Marks)

Name _____
Date _____



1. a. What is the place value of the 3 in the number:

i. 2 346 890

[1]

ii. 0.8345

[1]

b. Write the number 456 017 in words.

[1]

2. Mark the positions of the following events on this probability scale, using the letters given:

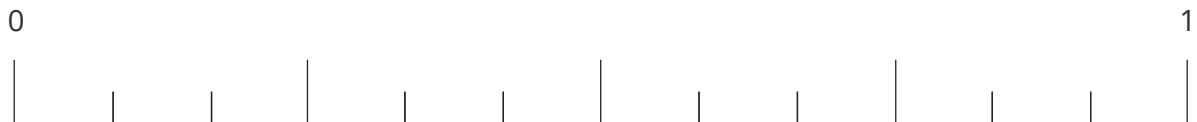
A – A fair, six-sided dice landing on a 5 when it is rolled.

B – A fair, six-sided dice landing with a number less than or equal to 2 face-up when it is rolled.

C – A fair, six-sided dice landing with an prime number face-up when it is rolled.

D – A fair, six-sided dice landing on a number 1 or more.

[4]



3. Fully simplify the following:

a. $\frac{8}{20}$

[1]

b. 16:32:24

[1]



4. Fully simplify the following:

a. $2 \times x$

[1]

b. $x + x + x$

[1]

c. $x \times x$

[1]

d. $5x - 2x$

[1]

5. Baby Jacob was born at the beginning of November and was weighed at the end of every month for the first six months of his life. His monthly mass, measured in kg and correct to 2 decimal places, is recorded in the table below.

End of the month	Nov	Dec	Jan	Feb	Mar	April
Mass(kg)	3.85	4.76	5.39	6.02	6.94	7.70

a. During which month did his mass increase by the greatest amount? Show all of your working.

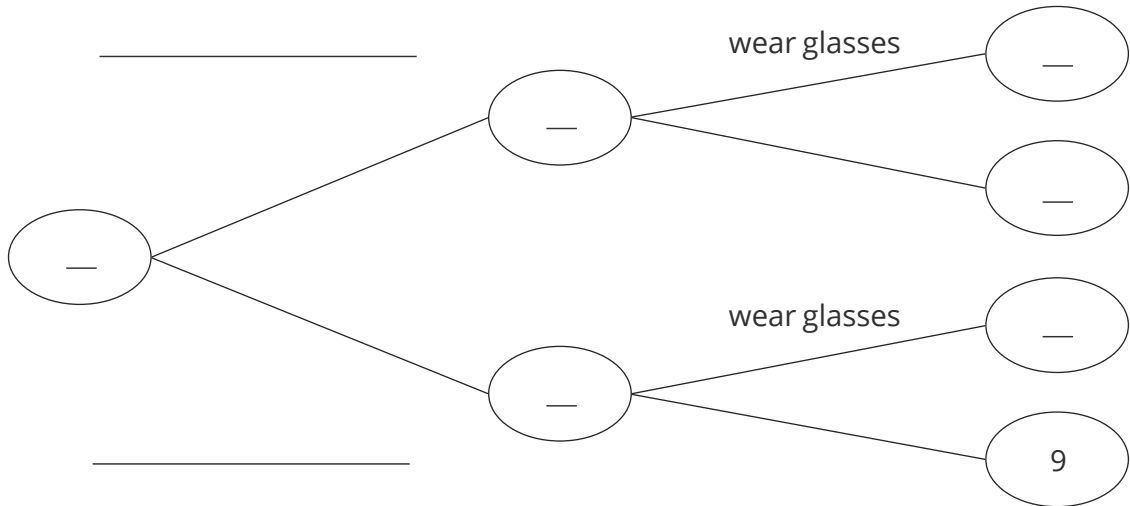
[2]

b. Give the ratio of his mass at the end of November to his mass at the end of April in the form $1:n$.

[2]

6. There are 30 students in 10DC. 13 of them are wearing jumpers. 6 of the students who are wearing jumpers are also wearing glasses. 8 of the children who are not wearing jumpers are wearing glasses. Fill in the missing information on the frequency tree.

[3]



7. The number nine bus leaves the bus station every 15 minutes.

The number ten bus leaves the bus station every 12 minutes.

Both buses leave the station at 6am. What time will it be next time the busses both leave the station together?

[3]



8. A large pile of British coins is on a table.

- a. James picks four coins. He says "The total number of pence I have is a cube number between 30 and 100." Which four coins did James pick?

[2]

- b. Tamika picks five different coins. She says "The highest common factor of my coin values, in pence, is 10." How much money did she pick up altogether?

[2]

- c. Tina picks up a 10p, a 20p and two other coins. She says "The number of pence I have is a prime number between 40 and 50". Which other coins did she pick?

[2]

- d. Lindsey picks 5 coins. She says "The total of my money, in pence, is a multiple of 32 and is less than 100". Give four possible combinations of coins she could have picked.

[3]

9. Use your calculator to evaluate: $\frac{\sqrt{2704}}{3 \times 10^4}$

- a. Write down all the numbers on your calculator display.

[2]

- b. Give your answer to part a. correct to 1 significant figure.

[1]



10. Paul and Jenni share some money in the ratio 3:8. If Jenni receives £1000 more than Paul, how much money does Jenni receive?

[3]

11. The exterior angle in a regular polygon is 72° .

a. How many sides does the polygon have?

[1]

b. What is the sum of the interior angles in this polygon?

[2]



12. The sign shows the price and diameter of pizzas and the price of extra toppings at Paige's Pizza Parlour.

Paige's Pizza Parlour	
30cm Pizza	£7.80
25cm Pizza	£6.00
20cm Pizza	£5.20
Extra toppings	55p

- a. What is the total cost of two 30cm pizzas with one extra topping each, one 25cm pizza with two extra toppings and a 20cm pizza without extra toppings?

[2]

£_____

- b. What is the area of a pizza with diameter 20cm? Give your answer correct to 1 decimal place.

[2]

_____cm²

- c. Which pizza offers better value for money, the 20cm pizza or the 25cm pizza? You must show your working.

[4]

13. In an equilateral triangle ABC, the length of side AB is $3x - 5$, side AC has length $4y + 2$ and BC is of length $x + 5$, with all lengths given in cm. Find the values of x and y .

[4]



14. The bearing of the school from the castle in Grangeville is 039° .

a. Draw a sketch to show this; your sketch does not need to be to scale.

[1]

b. What is the bearing of the castle from the school? Give angle reasons for your answer, referring to the sketch.

[2]

15. a. Ennis bought a tin containing 350g of sweets. After eating 125g of the sweets, what percentage of his sweets has he eaten? Give your answer correct to 1 decimal place.

[2]

b. Sally has eaten 28% of her 250g chocolate bar. How many grams of chocolate does she have left?

[2]

c. Ruby has eaten 45% of her bag of crisps. She has 11g left. What mass of crisps did she have to begin with?

[3]



16. In a multipack of planet chocolate bars, there are x individual bars. Roberto buys 6 packs and 4 individual bars. Paul buys 4 packs and 20 individual bars. Roberto has fewer planet bars than Paul.

a. Write an inequality to show this information.

[2]

b. Solve the inequality.

[2]

c. What are the possible values of the number of bars in a multipack?

[1]

17. a. Ranjit has measured w , the width of his dining table. He says that it is 1.2m correct to 1 decimal place. Give the upper bound for w .

[1]

b. Mary has measured the length, l metres, of the table. She says that it is 1.5m, truncated to 1 decimal place. Give the error interval for l .

[2]



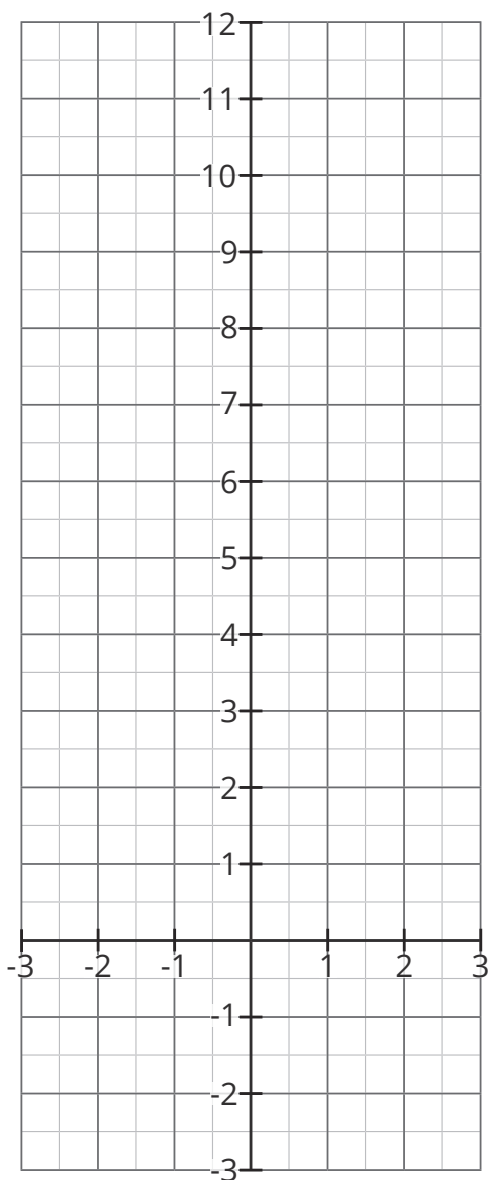
18. a. Complete the table of values below for $y = 2x + 6$.

[2]

x	-3	-2	-1	0	1	2	3
y		2				10	

a. Draw the graph of $y = 2x + 6$ on the axes below.

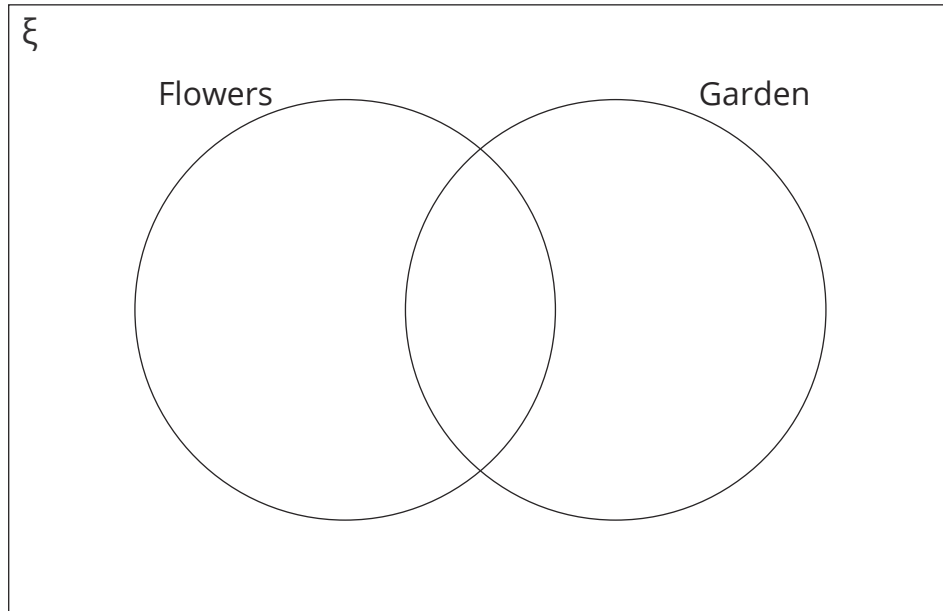
[2]



19. Charlotte receives 40 cards on her birthday. 15 cards have a picture with flowers. 5 of the cards show a picture of flowers in a garden. 6 cards don't have pictures of flowers or a garden at all. The remaining cards show a picture of a garden with no flowers.

a. Complete the Venn diagram to show this information.

[2]



- b. Charlotte picks a card at random. What is the probability that it will have a picture of flowers, a garden or both?

[2]

- c. If Charlotte picks a card at random from her cards with pictures of a garden, what is the probability that the card she picks will also have a flower on it?

[1]
