

Name: .....

# The Leys School Cambridge

## Year 6 Preliminary Assessment 2018

### MATHEMATICS

Time allowed: 45 minutes

#### *Instructions*

- Write your name in the box at the top of this page
- You have 45 minutes to complete this test
- Calculators are **not** allowed
- Attempt all questions
- Show your working in the space provided
- Follow the instructions for each question carefully
- If you cannot do a question, go on to the next one and try again later on
- Do not ask the teacher to explain a question to you
- If you finish before the end, check your answers and then wait quietly in your place
- If you do not finish, or if you cannot understand all the questions, do not worry.

Mark / 75

Percentage

## SECTION 1: MULTIPLE CHOICE

*Each question in this section is worth two marks.*

**Circle the correct answer.**

1. Which of the following are factors of 60 greater than 10?

- a. 12, 15, 20, 40      b. 6, 15, 20, 30      c. 15, 20, 30, 45      d. 12, 15, 20, 30

2. Here is a picture of Janet's morning timetable at The Leys.

Time	Mon	Tues	Weds	Thurs	Fri	Sat
8.45am - 9.30am	English	Maths	French	Physics	Maths	English
9.35am - 10.20am	History	English	Maths	English	Latin	French

What is the total number of hours for **English** on this timetable?

- a. 2.25      b. 3      c. 3.5      d. 4

3. What is the missing number from the following equation?

$$3 \times \left( 17 - \square \right) = 18$$

- a. 8      b. 11      c. 12      d. 14

4. Which measurement is equivalent to 3850 grams measured in kilograms.

a. 0.385 kg

b. 3.85 kg

c. 38.5 kg

d. 3,850,000 kg

5. The +, -, ×, ÷ signs have been left out of the following sum:

$$12 \quad 4 \quad 6 \quad 3 \quad = \quad 5$$

Which of the following expressions will **not** result in the correct result?

a.  $12 \times 4 \div 6 - 3$

b.  $12 - 4 - 6 + 3$

c.  $12 + 4 \div 6 - 3$

d.  $12 \div 4 + 6 \div 3$

6. How many months are there in one quarter of five years?

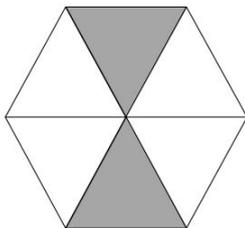
a. 10

b. 12

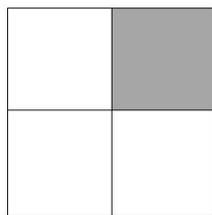
c. 15

d. 20

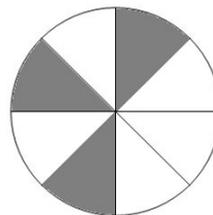
7. Which of the following shapes has one third of its area shaded?



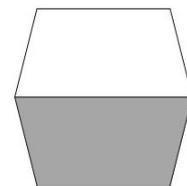
A



B

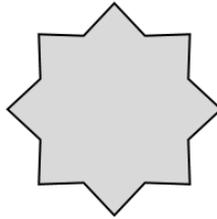


C



D

8. How many lines of symmetry does the following star shape have?



a. 8

b. 6

c. 4

d. 2

9. Rania adds a square number to a prime number and gets 35. Which of the following sums could Rania have been calculating?

a.  $9 + 29$ b.  $18 + 17$ c.  $19 + 16$ d.  $25 + 10$ 

10. Here is a rule for cooking roast partridge.

Cooking time is 45 minutes plus 25 minutes for every 100 grams.

What is the weight of a partridge that takes 3 hours and 15 minutes to cook.

a. 300 grams

b. 400 grams

c. 500 grams

d. 600 grams

## SECTION 2: LONG ANSWER

*Each question in this section is worth four marks.*

**Answer in the spaces provided.**

11. Sofina did a survey of students at her school and asked them which was their favourite type of Jam. The results are presented in the table below.

	Strawberry	Raspberry	Gooseberry
Year 9	62	31	7
Year 10	50	23	17
Year 11	26	32	22
Sixth Form	12	34	24

- (a) How many Year 11 students like Gooseberry Jam? .....
- (b) What is the difference between the number people who prefer Strawberry Jam in Year 10 and Sixth Form?

Answer: .....

- (c) What percentage of those who liked Strawberry Jam were in the sixth form?

Answer: .....

12. In the following multiplication grid, the row value times by the column value gives the value in the grid.

	$a$	15
$7$	$84$	$b$
$c$	$132$	$d$

Use this grid to calculate the values of  $a$ ,  $b$ ,  $c$  and  $d$ .

Answer:  $a = \dots\dots\dots$      $b = \dots\dots\dots$      $c = \dots\dots\dots$      $d = \dots\dots\dots$

13. A water bottle contains 800ml of lemonade. Anabel initially drinks one tenth of this. Then Byron drinks 40% of what remains. How much lemonade is left in the bottle?

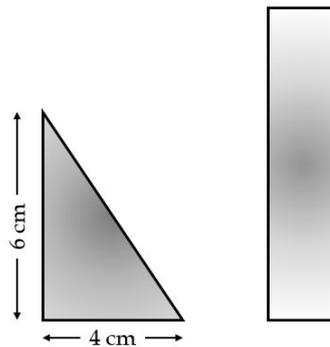


Answer: .....

14. For each of the pairs of numbers in the following table, circle either the fraction or the decimal that has the highest value.

$1\frac{1}{4}$	1.3
$1\frac{3}{20}$	1.25
$\frac{88}{100}$	0.85
$\frac{17}{10}$	1.6

15. Stephen has two cards, one is a right-angled triangle with width 4 cm and height 6 cm. The other is a rectangle with width that is 1 cm shorter and height that is 3 cm greater than the triangle. This is illustrated in the diagram below (which is not to scale).



If the area of the triangle is  $X$  and the area of the rectangle is  $Y$ , find  $\frac{X}{Y}$ . Give your answer as a simplified fraction.

Answer: .....

16. Write a number in each box to make the calculations correct.

$$\square \times \square = 121$$

$$-27 + \square = -6$$

$$-64 \div \square = 16$$

17. Consider the following table.

a	b
1	10
2	16
3	22
4	28

(a) Complete the formula below

$$b = \square \times a + 4$$

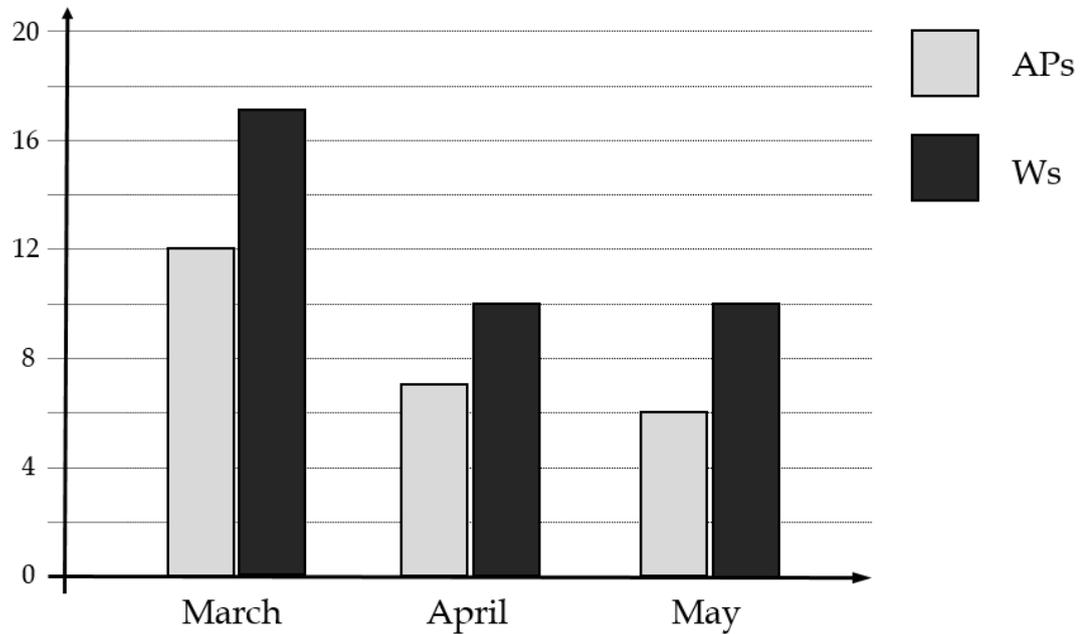
(b) What is the value of **b** when **a** = 12

Answer: .....

(c) What is the value of **a** when **b** = 124

Answer: .....

18. The bar chart below shows the number of APs (good work) and Ws (bad work) that a grumpy mathematics teacher awards in the spring months.



(a) How many Ws were awarded in March?

Answer: .....

(b) How APs were awarded overall?

Answer: .....

(c) Describe the trend for the number of APs awarded.

Answer: .....

(d) What was the ratio of APs to Ws in May. Leave your answer in the simplest form.

Answer: .....

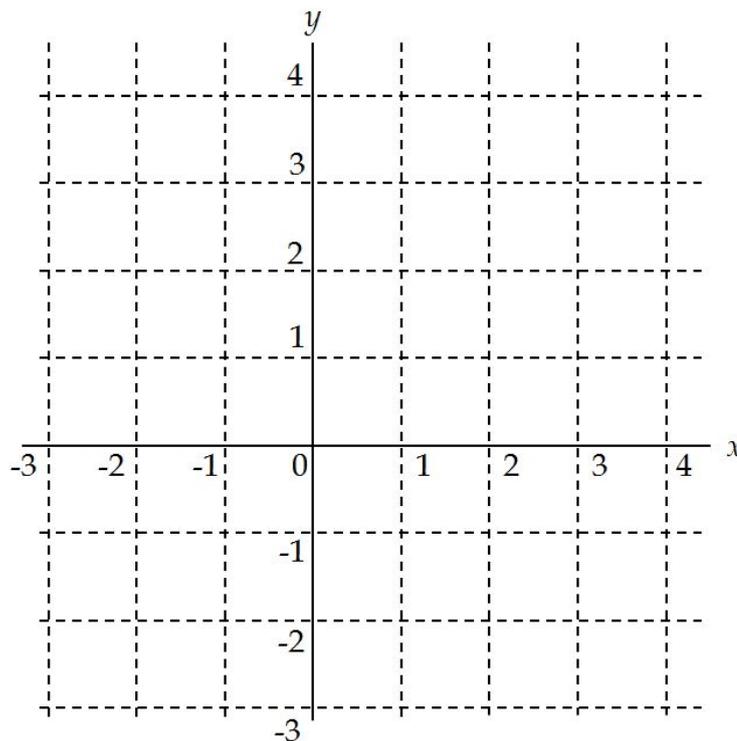
19. Brigid thinks of a whole number. She multiplies it by 3 and then adds 5. She then rounds it to the nearest 10. The answer she gets is 50.

Find the possible numbers with which she could have started.

Answers: .....

20. On the coordinate grid below.

(a) Plot and label the points: A (3, 1) B (1, -2) C (-2, 0) D (0, 3)



(b) Give the name of the shape ABCD when these points are joined.

Answer: .....

21. (a) Kevin buys three watermelons which cost £2.68 each and five pineapples which cost £1.42 each. He notices that this is exactly how much he just paid for two pairs of tracksuit trousers. How much does a pair of tracksuit trousers cost?

Answer: .....

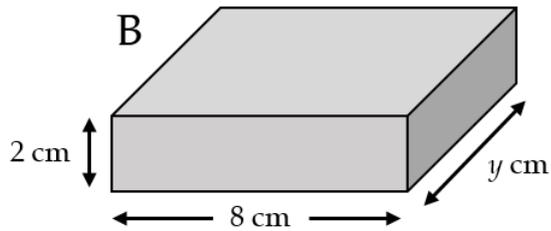
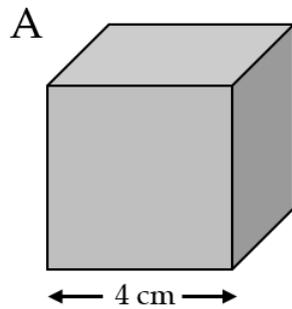
- (b) Jean buys 10 watermelons. How much change does she get from a £50 note?

Answer: .....

22. Complete the table below.

$x$	$x + 3$	$4x$	$2x - 1$	$5 - x$
5		20		
	1			

23. The solid A is a cube of dimension 4 cm. The solid B is a cuboid of dimensions 8 cm by 2 cm by  $y$  cm.



A and B have the same volume.

(a) Calculate the value of  $y$ .

Answer: .....

(b) What is the total surface area of the cube, solid A.

Answer: .....

## SECTION 3: HARDER QUESTION

*The question in this section is worth three marks.*

**Only attempt to answer this if you have finished the rest of the paper.**

24. Fill in the cross number below, by answering across and down the clues, using each of the digits 0 – 9 exactly once. There is only one solution that will work.

	1		
2		3	
		4	5
6			

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*Across*

2. A power of 5

4. A square number

6. A triangular number

*Down*

1.  $10^2 - 2^3$

2. 3 times **3 down** minus 12

3. A prime number

5. Five thirds of **4 across**

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