PiAcademy

11+ Mathematics
SET Style - Pack 3
Test Paper - 11

Instructions:

1. The time allowed is 50 minutes for 47 questions.
2. This is a multiple-choice test and each question carries 1 Mark.
3. Answers should be clearly marked in pencil on the provided answer sheet.
4. Do not turn over the booklet until you are told to do so.
5. No Marks are lost for an incorrect answer.
6. If you have marked the wrong answer, erase it and mark the new one. Make sure that your final answer is clear.

Symbols used:

Go to the next page.

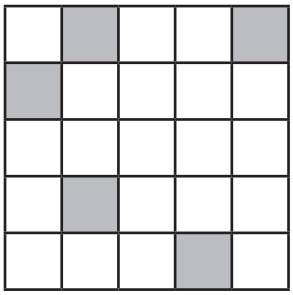
Do not turn the page until told to do so.

Stop working and await instructions.

1 Which of the following fractions is the second largest among the given options?

(A) $\frac{2}{5}$ (B) $\frac{12}{32}$ (C) $\frac{8}{25}$ (D) $\frac{14}{50}$ (E) $\frac{10}{30}$

2 What is the smallest number of additional squares to be shaded, so that the figure below has at least 2 lines of symmetry and rotational symmetry of order 2?



(A) 0 (B) 1 (C) 2 (D) 3 (E) 4

3 What is $4.30 + 3\frac{2}{5}$?

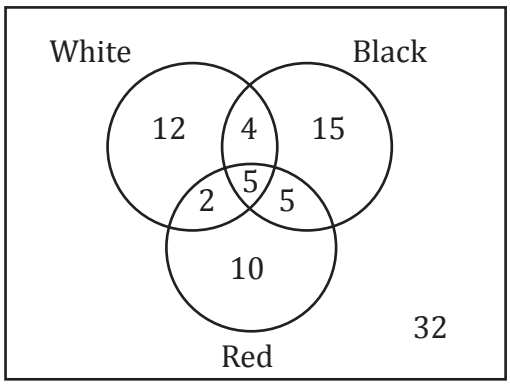
(A) 7.30 (B) 7.40 (C) 7.10 (D) 7.70 (E) None of these

4 Work out $2 + 5 \times \frac{12 - (3 \times 2)}{3}$

(A) 20 (B) 26 (C) 12 (D) 10 (E) 24

Visit piacademy.co.uk/11-plus-papers to check the 'answers'

5 The favourite colours of a group of people are recorded in a Venn diagram as shown below.



How many people like white or red, but do not like black?

(A) 31 (B) 36 (C) 14 (D) 24 (E) 30

6 Convert 2346 ml into litres. Round your answer up to 2 decimals.

(A) 23.46 litres (B) 2.34 litres (C) 2.36 litres

(D) 2.35 litres (E) 2.346 litres

7 What are the next two terms in the given sequence?

5, 10, 15, 7, 25, 4 ...

(A) 2 and 17 (B) 35 and 1 (C) 25 and -1

(D) 26 and 1 (E) 17 and 2

8 There are 300 people in a leisure centre, 30 are staff and the rest are members. There are twice as many male members as female members. How many female members are there?

(A) 200 (B) 100 (C) 220 (D) 180 (E) 90

9 Write the numbers in decreasing order.

2.074, 2.774, 2.704, 2.777, 2.077

(A) $2.074 > 2.774 > 2.704 > 2.777 > 2.077$

(B) $2.774 > 2.074 > 2.777 > 2.704 > 2.077$

(C) $2.777 > 2.774 > 2.074 > 2.704 > 2.077$

(D) $2.777 > 2.774 > 2.704 > 2.077 > 2.074$

(E) $2.777 > 2.774 > 2.704 > 2.074 > 2.077$

10 The below pictograph shows the number of hours worked by a crew constructing a building in a week.

Monday	
Tuesday	
Wednesday	
Thursday	
Friday	

How many hours in total did the crew work for?

(A) 64 hours (B) 84 hours (C) 60 hours (D) 72 hours (E) 70 hours

11 It takes two minutes for a car travelling at a constant speed to cross a bridge that is 300 metres long. The same car, travelling at twice the speed, then crosses a bridge 450 metres long. How long does it take the car to cross this bridge?

(A) 1 minute (B) 120 seconds (C) 45 seconds

(D) 90 seconds (E) None of these

12 Tim drank 200 ml of water during the morning, 800 ml of water during the afternoon and 0.5 litre of water in the evening. He did this every day for a week. How many litres of water did he drink during this week?

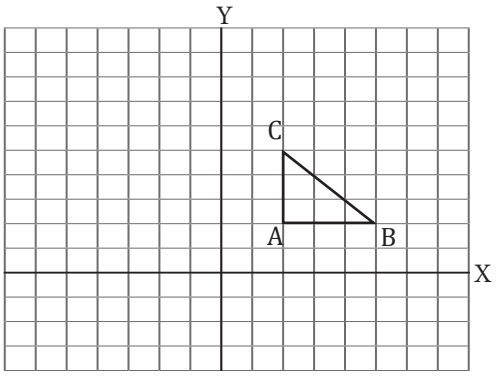
(A) 1.5 litres (B) 3 litres (C) 7 litres (D) 10 litres **(E)** 10.5 litres

13 What is the next term in the sequence below?

2, 4, 8, 14 ...

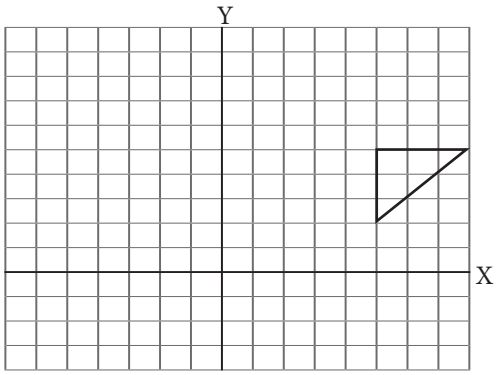
(A) 16 (B) 20 (C) 24 (D) 28 (E) 22

14 The triangle is rotated 90° anti-clockwise about point B.

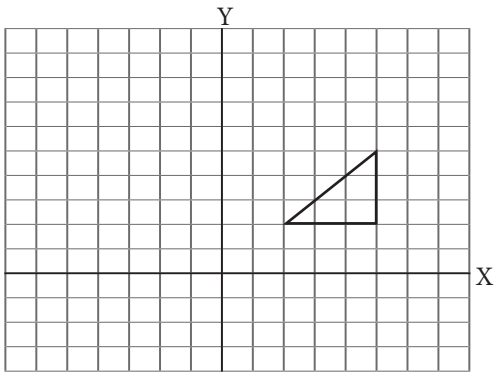


What will the resulting image be?

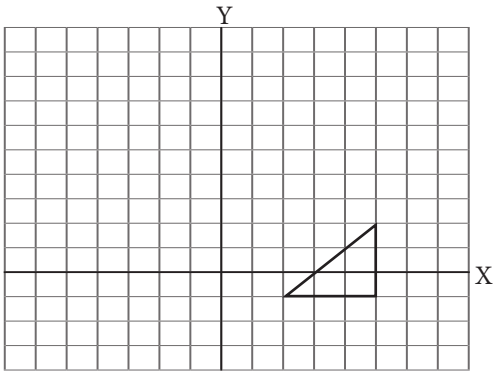
(A)



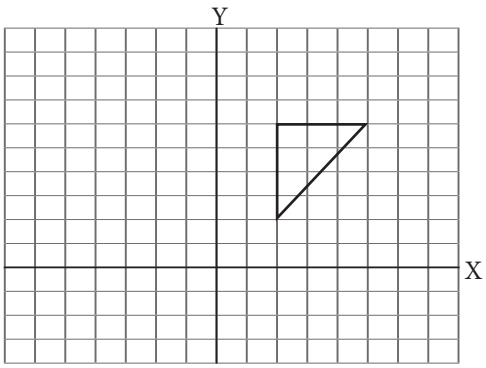
(B)



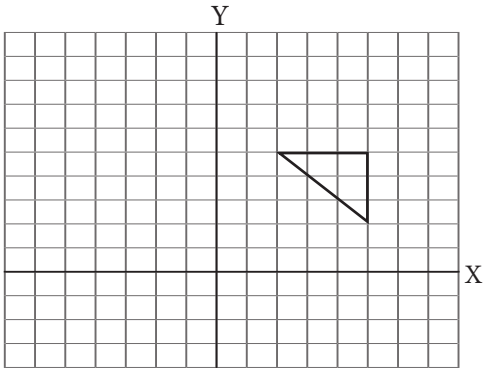
(C)



(D)



(E)



15 Find the values of A and B in the given equations.

$$\boxed{A} \times 3 = 78$$

$$15 + 4 \times \boxed{B} = 63$$

(A) 20 and 15 (B) 12 and 15 (C) 23 and 26

(D) 26 and 23 (E) 26 and 12

16 Which of the statements is correct?

(A) $\frac{3}{4} > \frac{2}{3} > \frac{3}{6} > 1$ (B) $\frac{5}{6} > \frac{9}{12} > \frac{3}{4} > \frac{1}{2}$ (C) $\frac{5}{7} > \frac{2}{3} > \frac{1}{2} > \frac{1}{3}$

(D) $\frac{1}{5} > \frac{1}{6} > \frac{1}{7} > \frac{4}{9}$ (E) None of these are correct

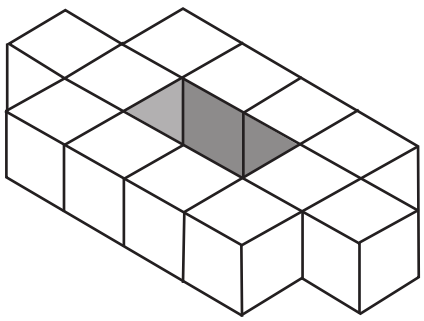
17 James cuts a 30 metre rope into three different pieces.
The shortest piece is 5 metres shorter than the middle piece.
The longest piece is 500 cm longer than the middle piece.

How long is the middle piece?

(A) 10000 cm (B) 10 metres (C) 1500 cm

(D) 500 cm (E) 300 cm

18 The shape below is made out of cubes of volume of 8 cm^3.



What is the surface area of the shape?

(A) 48 cm^2 (B) 214 cm^2 (C) 64 cm^2 (D) 96 cm^2 (E) 192 cm^2

19 A football and two pairs of boots cost £110. Two footballs and one pair of boots cost £70. How much do 6 footballs and 6 pairs of boots cost?

(A) £180 (B) £240 (C) £360 (D) £600 (E) None of these

20 What is the difference between the first and third prime numbers after 30?

(A) 6 (B) 4 (C) 5 (D) 10 (E) 7

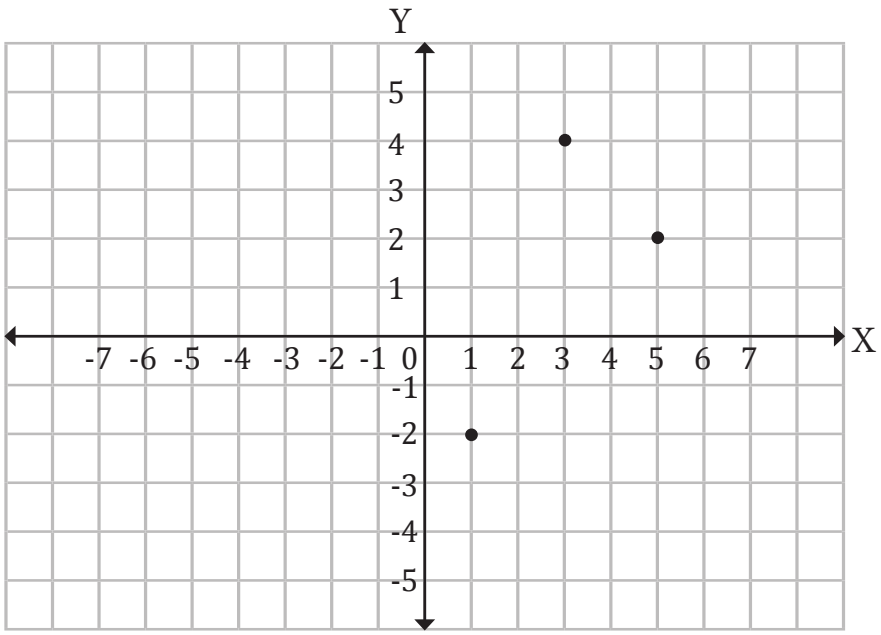
21 Harry is three times Mary's age. In two years' time, Harry will be 14. How old is Mary now?

(A) 3 (B) 4 (C) 5 (D) 6 (E) 12

22 Jimmy has twice the amount of money Alice has. Alice has half the amount of money Clara has. If Clara has £40, how much money do they have in total?

(A) £40 (B) £80 (C) £100 (D) £120 (E) £70

23



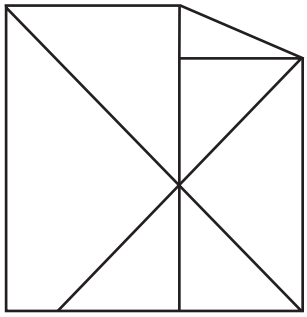
Three points of a rectangle are shown in the graph.
What are the coordinates of the missing point?

(A) (-1,0) (B) (-2,1) (C) (1,1) (D) (-2,0) (E) None of these

24 Find the average of 40, 50, 42, 13 and 30.

(A) 47.5 (B) 35 (C) 43.75 (D) 42.5 (E) 40

25 Observe the figure below carefully:



How many triangles are there in this figure?

(A) 6 (B) 7 (C) 8 (D) 9 (E) 10

26 A square is made up of one rectangle and two right-angled triangles. If the area of the rectangle is half of the area of original square, what is the area of one triangle?

(A) Twice the area of the rectangle

(B) Same as the area of the rectangle

(C) Half the area of the square

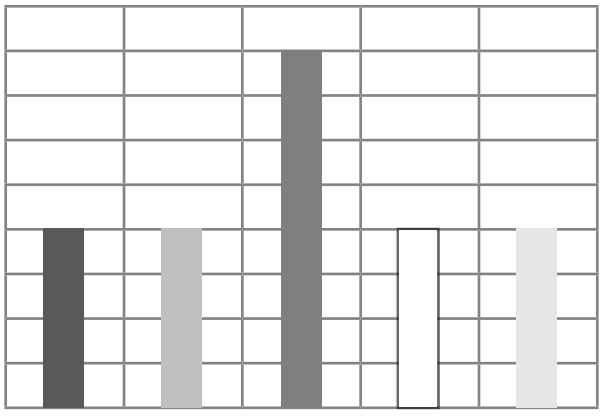
(D) A quarter of the area of the square

(E) None of these

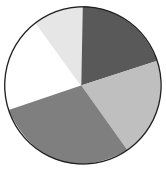
27 Work out $(10 \div (13 - 2 \times 4)) - 2 \times 3$

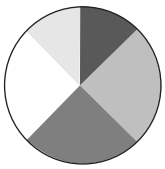
(A) -10 (B) -4 (C) 10 (D) 4 (E) None of these

28 Which of the following pie charts could represent the data from the bar chart below?



(A) 

(B) 

(C) 

(D) 

(E) None of these

29 In a sale, the price of a phone was reduced by 40%. If the sale price of the phone was £300, find the normal price of the phone.

(A) £180 (B) £120 (C) £500 (D) £420 (E) £600

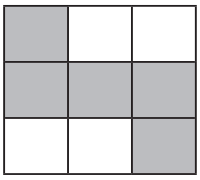
30 Find the sum of the highest common factor of 96 & 45 and the lowest common multiple of 18 & 12.

(A) 36 (B) 14 (C) 27 (D) 21 (E) 39

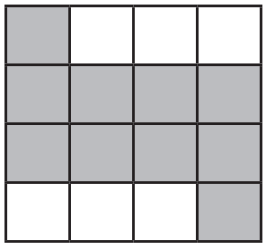
31 If a, b and c are positive, and $a \times b = 6$, $b \times c = 15$ and $c \times a = 10$, find the value of $a + b - c$?

(A) 10 (B) 6 (C) 4 (D) 0 (E) 7

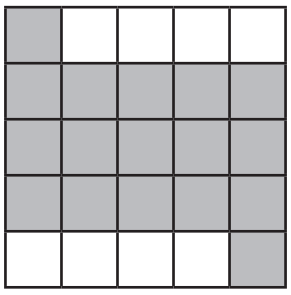
32 Here are some patterns made from black and white tiles:



Pattern 1



Pattern 2



Pattern 3

How many black tiles are in pattern 7?

(A) 49 (B) 40 (C) 63 (D) 65 (E) 51

33 Here is a list of numbers.

3 8 32 60 12 20 39 54

How many numbers are multiples of 3?

(A) 3 (B) 4 (C) 5 (D) 6 (E) 7

34 Fred writes all of the square numbers from 10 to 99 inclusive in reverse order. For example '49' is written as '94'. How many of these numbers will be multiples of 6?

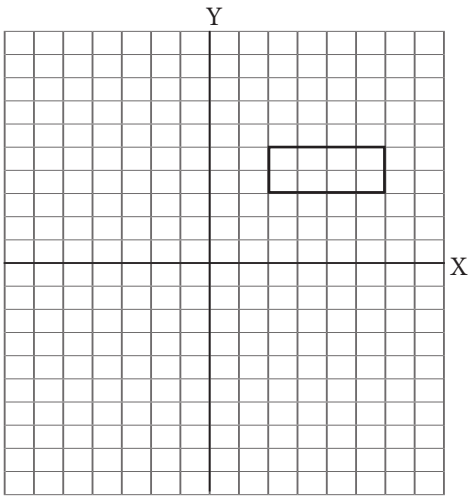
(A) 0 (B) 1 (C) 3 (D) 7 (E) 5

35 Find the value of x in the given equation:

$$3(x - 4) = 12(x + 23)$$

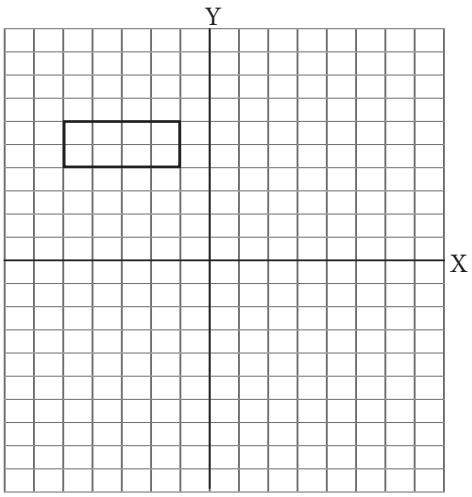
(A) -3 (B) 3 (C) -32 (D) 30 (E) -30

36 The rectangle shown below is reflected in Y-axis and then reflected in X-axis.

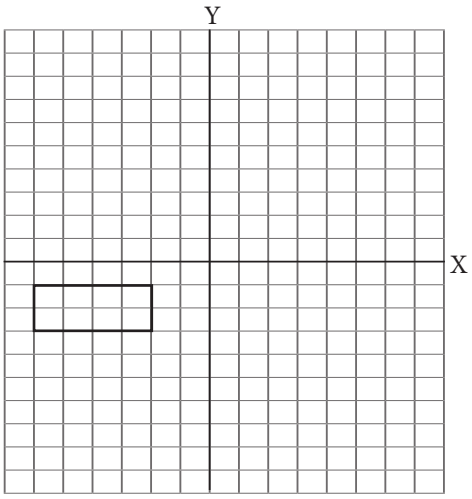


What is the resulting image?

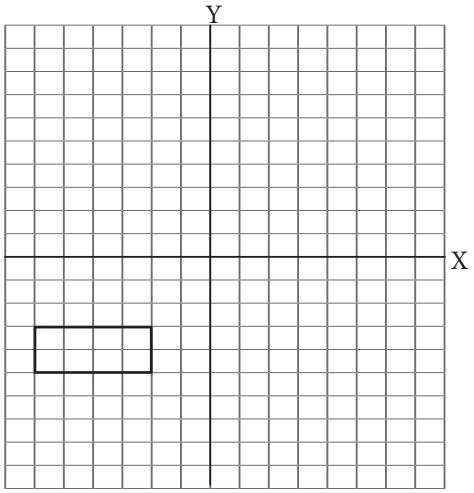
(A)



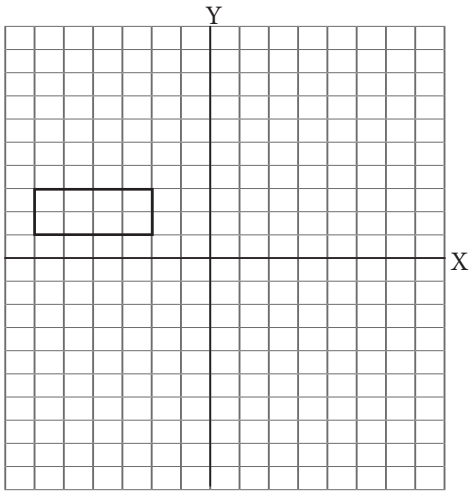
(B)



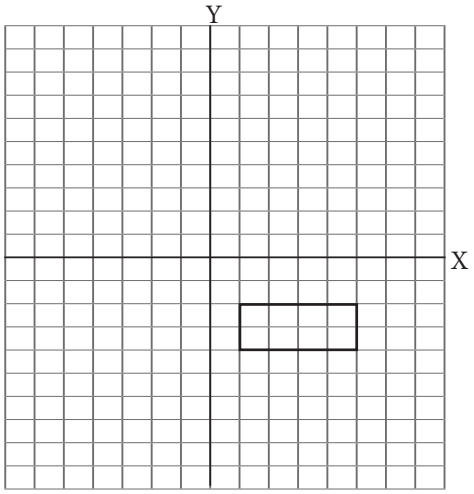
(C)



(D)



(E)



37 The mean weight of four apples was 120 g. Leo ate an apple and the mean weight of the remaining apples was 116 g. What was the weight of the apple that Leo ate?

(A) 120 g (B) 116 g (C) 132 g (D) 108 g (E) 124 g

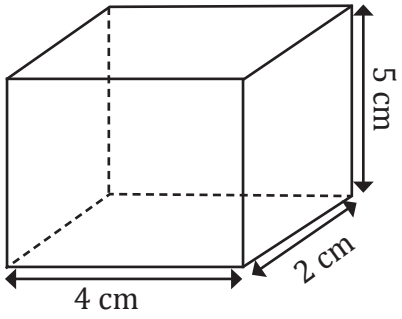
38 A certain number between 80 and 100 has exactly four factors excluding 1. If one of its factors is 3, what is the number?

(A) 81 (B) 84 (C) 90 (D) 96 (E) 98

39 A bus left London for Liverpool at 12:00 pm. The bus made 5 stops, each lasting 10 minutes. If the bus travelled for 6 hours on the road, at what time did the bus reach Liverpool?

(A) 6 pm (B) 6:30 pm (C) 5:50 pm (D) 6:50 pm (E) 7:00 pm

40 Find the volume of the given cuboid.



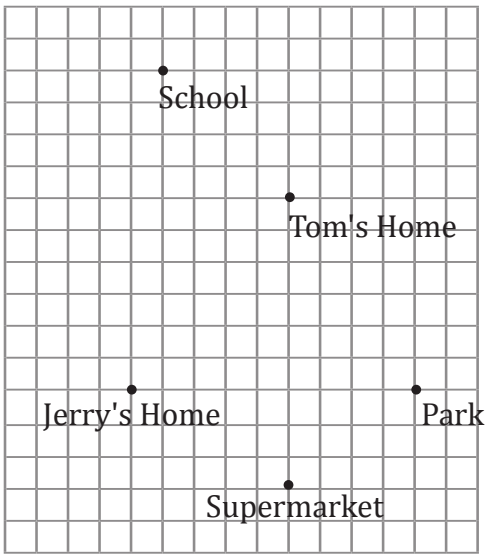
Not to Scale

(A) 80 cm^3 (B) 40 cm^3 (C) 10 cm^3 (D) 60 cm^3 (E) 25 cm^3

41 In a bag, there are 20 green balls and some red balls. Roy picks one ball randomly and it is red. If the probability of this outcome is 0.2, how many red balls are in the bag?

(A) 4 (B) 5 (C) 8 (D) 10 (E) 12

42 Observe this map:



If the supermarket is at (0,0), find the coordinates of Jerry's Home.

(A) (4, 3) (B) (-5, 3) (C) (-5,-3) (D) (3, 5) (E) (2, 5)

43 Work out $(2 \times (3 \times 4 - 8) \div 2) \div 4$

(A) 2 (B) 4 (C) 3 (D) 8 (E) None of these

44 How many fractions with a denominator 9 are there in between $\frac{1}{3}$ and $\frac{7}{9}$, both inclusive?

(A) 3 (B) 4 (C) 5 (D) 6 (E) 7

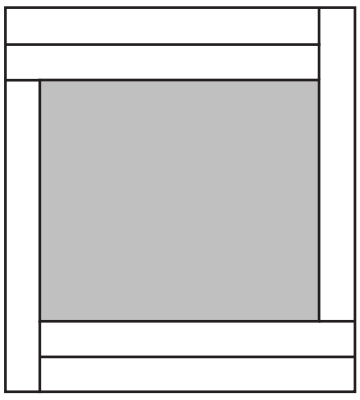
45 The ratio x : y = 2 : 1 and the ratio y : z = 5 : 2. What is the ratio x : z?

(A) 1 : 1 (B) 1 : 2 (C) 2 : 1 (D) 1 : 5 (E) 5 : 1

46 Which of the following fractions is closest to $\frac{1}{3}$?

(A) $\frac{7}{24}$ (B) $\frac{11}{30}$ (C) $\frac{20}{36}$ (D) $\frac{10}{36}$ (E) $\frac{12}{16}$

47 The diagram below is made of rectangles of length of 10 cm and width of 2 cm.



Find the area of the shaded region.

(A) 32 cm^2 (B) 48 cm^2 (C) 40 cm^2 (D) 64 cm^2 (E) 120 cm^2

11+ Maths SET Style (Pack 3) - Test Paper 11
ANSWER MARKING SHEET

Name: Date:

School Name:

Please mark boxes with a thin horizontal line like this -▭-.

1 A B C D E	2 A B C D E	3 A B C D E	4 A B C D E	5 A B C D E	6 A B C D E	7 A B C D E	8 A B C D E	9 A B C D E	10 A B C D E
11 A B C D E	12 A B C D E	13 A B C D E	14 A B C D E	15 A B C D E	16 A B C D E	17 A B C D E	18 A B C D E	19 A B C D E	20 A B C D E
21 A B C D E	22 A B C D E	23 A B C D E	24 A B C D E	25 A B C D E	26 A B C D E	27 A B C D E	28 A B C D E	29 A B C D E	30 A B C D E
31 A B C D E	32 A B C D E	33 A B C D E	34 A B C D E	35 A B C D E	36 A B C D E	37 A B C D E	38 A B C D E	39 A B C D E	40 A B C D E
41 A B C D E	42 A B C D E	43 A B C D E	44 A B C D E	45 A B C D E	46 A B C D E	47 A B C D E			

For Parents use only

Marks Scored: ---------- **Time taken:** ----------

Comments: ----------
