PiAcademy

11+ Mathematics
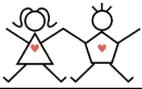# SET Style - Pack 2
Test Paper - 5

Symbols used:

Go to the next page.

Do not turn the page until told to do so.

Stop working and await instructions.

1 From the numbers in the triangle, write down a factor of 42.

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        13
     4      8
        14
   5          12
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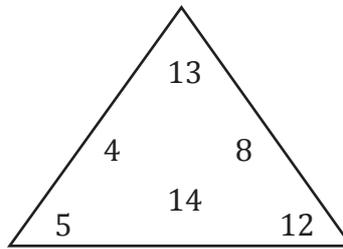
(A) 4   (B) 5   (C) 8   (D) 12   (E) 14

2 Mary has three ribbons of length a metres, 2a metres and 4a metres respectively. She cuts the longest ribbon into four equal parts. She connects one smaller part of the cut ribbon and the other two ribbons. What is the total length of the ribbon formed after joining?

(A) 3a metres   (B) 4a metres   (C) 6a metres
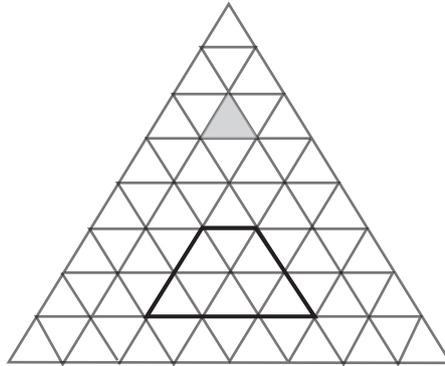
(D) 8a metres   (E) 7.5a metres

3 John shares 36 sweets between himself and Anna, Ben and Claire. If John takes 6 sweets, Anna gets a third of the remaining sweets, and Ben gets 45% of the remaining two-thirds, how many sweets does Claire get?

(A) 9   (B) 10   (C) 15   (D) 11   (E) 12

4 The area of the small shaded triangle on the grid below is b. What is the area of the shape outlined in terms of b?

(A)   4b   (B)   6b   (C)   7b   (D)   9b   (E)   8b

5 25% of 140 is the same as $\dfrac{7}{8}$ of:

(A)   50   (B)   40   (C)   45   (D)   80   (E)   70

6 The mean height of 6 students in a group is 132 cm.
One more student joins the group. The new mean height of the group is 133 cm.
What is the height of the new student?

(A)   133 cm   (B)   132 cm   (C)   136 cm   (D)   139 cm   (E)   142 cm
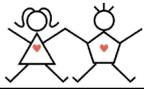
7 The following shape is symmetrical about the y-axis. What are the coordinates at point A?
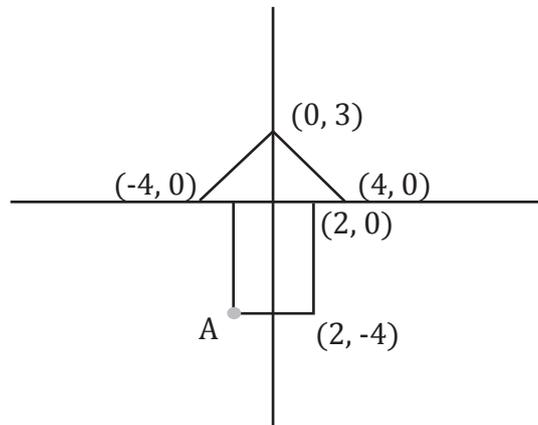
(A) (-2, 0)   (B) (0, -4)   (C) (-2, -4)   (D) (-2, 3)   (E) (3, 1)

8 The sum of the interior angles of a regular polygon is given by the formula,
sum = (n - 2) x 180°.
Find the size of an interior angle of a regular octagon.

(A) 120°   (B) 125°   (C) 140°   (D) 135°   (E) 160°

9 An Armstrong number is a number for which the sum of the cubes of its digits is equal to the number itself. How many Armstrong numbers are there between 100 and 500?

(A) 6   (B) 10   (C) 15   (D) 8   (E) 4
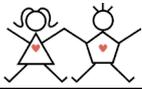
10 The shaded area in the following diagram represents the play-area of a school. What is the area of the play-area in metres squared?
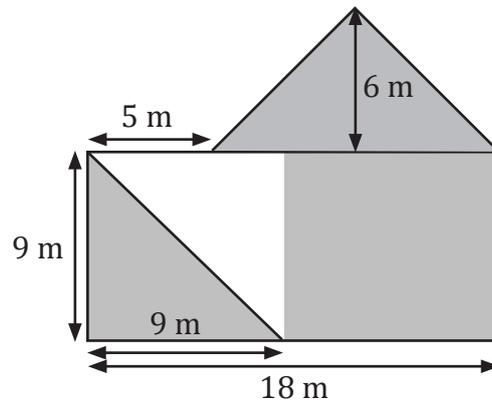
(A)   220 m²   (B)   160.5 m²   (C)   165 m²   (D)   180 m²   (E)   175 m²

11 In a magic square, each row, each column and both main diagonals have the same total. In the partially completed magic square shown, what number should replace a?

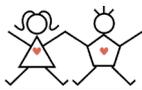| 21			
27	15		
	30	22	19
	a	17	29

(A)   14   (B)   16   (C)   18   (D)   22   (E)   21

12 Henry is 2.5 times older than Gary. Jack is three times older than Henry. If the sum of their ages is 110, what is the age of the youngest person?

(A)   25 years   (B)   35 years   (C)   40 years   (D)   10 years   (E)   15 years

13 If October 13ᵗʰ falls on a Wednesday, on which day of the week will Christmas fall that year?

(A)   Thursday   (B)   Friday   (C)   Tuesday   (D)   Monday   (E)   Saturday

14 Which of the following statements is correct?

(A) $7\frac{1}{5} - 0.1 = 7$

(B) $7\frac{2}{5} - 0.3 = 7\frac{1}{5}$

(C) $7\frac{3}{5} - 0.3 > 7.3$

(D) $7\frac{2}{5} + 0.2 > 7.5$

(E) $7\frac{4}{5} - 0.1 = 7.5$

15 A cube with sides of 4 cm is painted blue on all of its faces and then cut into smaller cubes with sides of 1 cm each. Find the total number of smaller cubes with exactly two faces painted?

(A)   8   (B)   20   (C)   24   (D)   40   (E)   52

16 A rectangular playground has dimensions 700 m x 600 m. The scale drawing of the playground has dimensions 3.5 cm x 3 cm. What is the scale of the drawing?

(A)   1 : 200

(B)   1 : 150

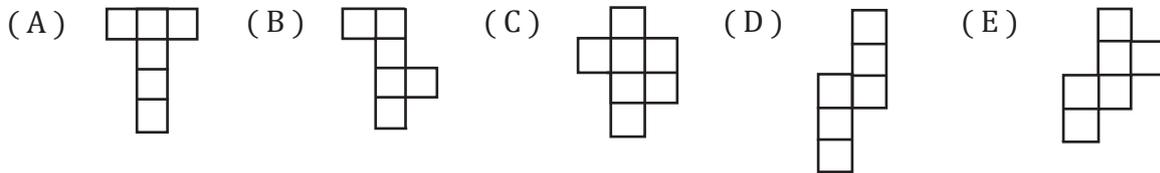(C)   1 : 20000

(D)   1 : 15000

(E)   1 : 2000
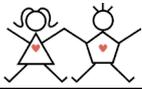
(17) A small factory manufactures erasers of size 4.5 cm x 1.8 cm x 1.3 cm. These are then packed in a box of size 90 cm x 54 cm x 26 cm. How many erasers can be fitted in a box?

(A)   18000   (B)   12000   (C)   1800   (D)   1200   (E)   15000

(18) Which of the following is not the net of a cube?

(A)   (B)   (C)   (D)   (E)

(19) What is the product the first two prime numbers after 2^3?

(A)   99   (B)   77   (C)   143   (D)   132   (E)   187

(20) Eva has 50 toys in total, all of which are cars, teddies and dolls. She has 4 more dolls than teddies and 2.5 times as many cars as dolls. How many cars does she have?
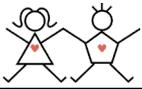
(A)   15   (B)   12   (C)   18   (D)   24   (E)   30

(21) Which of the following expressions gives the largest number?

(A)   2 x 8 + 8 x 4   (B)   2 + 8 + 8 + 4   (C)   2 x 8 + 8 + 4
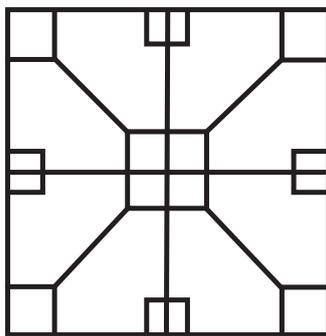
(D)   2 x 8 x 8 + 4   (E)   2 + 8 x 8 + 4

22) Gwen spends a total of £8.15 on a t-shirt and a jewellery set at Primark. A t-shirt costs 65p more than a jewellery set. How much does a t-shirt cost?
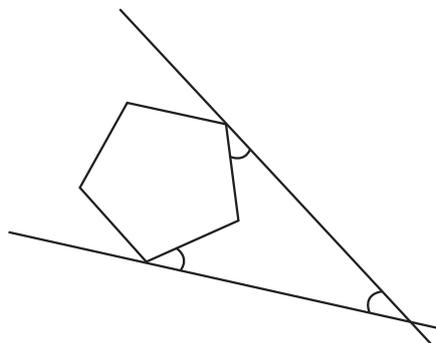
(A) £3.75   (B) £4.40   (C) £3.50   (D) £4.75   (E) £3.65

23) How many lines of symmetry does this picture have?

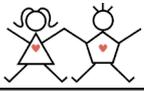
(A) 1   (B) 2   (C) 3   (D) 4   (E) 5

24) The diagram shows a regular pentagon touching two straight lines. What is the sum of the three marked angles?

(A) 252°   (B) 78°   (C) 108°   (D) 124°   (E) 86°

25 Two numbers have a sum of 115. The larger number is four times the smaller number. What is the larger number?

(A) 100   (B) 98   (C) 86   (D) 82   (E) 92

26 What is (167.54 ÷ 100) x 10000?

(A) 1.6754   (B) 167.54   (C) 1675.4   (D) 16754   (E) 16.754

27 Which of the following could be length of a car?

(A) 300 m   (B) 30 cm   (C) 3000 mm   (D) 3 inches   (E) 0.3 km

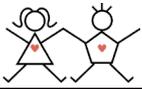**28** In the grid below, the number in the middle of each row or column is the sum of the numbers on either side of it.
What value must be placed in the shaded box?

3.6		6.4
4.8		5.6

(A) 12   (B) 8.4   (C) 20   (D) 15.26   (E) 20.4

29 I have three jars of marbles. The first one has 20 marbles, 30% of which are blue. The second one has 30 marbles, 40% of which are blue. The third jar contains 40 marbles, 45% of which are blue. If I combine all of the marbles from the three jars together in a big container, what percentage of the marbles will be blue?

(A) 35%   (B) 75%   (C) 40%   (D) 45%   (E) 50%

30 What is the value of the smaller angle between the hour hand and minute hand of an analogue clock at half past four?
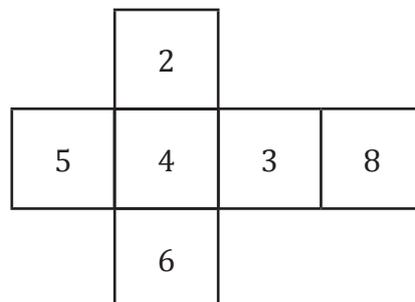
(A) 60°   (B) 75°   (C) 80°   (D) 35°   (E) 45°

31 What is the result of the following calculation?

$$(42 \times 46718) + (58 \times 46718) = ?$$
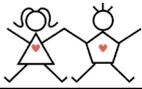
(A) 264800 (B) 4671800 (C) 3678640 (D) 4617800 (E) 286480

32 The figure shown is folded to form a cube. If the numbers on the opposite faces of the cube are multiplied together, what is the largest product that can be obtained?

	2		
5	4	3	8
	6		

(A) 48   (B) 30   (C) 40   (D) 20   (E) 32

33 Katy is organising a house warming party. She needs brownies and soda cans. Brownies are sold in packs of 15. Soda cans are sold in packs of 18. Katy buys exactly the same number of soda cans as brownies. What is the least number of packs of soda cans that Katy could buy?

(A) 15   (B) 20   (C) 90   (D) 6   (E) 5

34 The given time table shows the time it takes to reach Melonville from Bay City by train.

Station	Time
Bay City	9:30
Everwood	9:52
Hollyoaks	10:26
Melonville	10:55

How long does the train take (in minutes) to get from Everwood to Melonville?
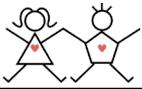
(A) 53 minutes   (B) 63 minutes   (C) 85 minutes

(D) 22 minutes   (E) 29 minutes

35 What is the second number if the following numbers are arranged in ascending order?

$$\frac{4}{5} \quad 23\% \quad 0.56 \quad 3.42\% \quad \frac{3}{8}$$

(A) $\frac{4}{5}$ (B) 23%   (C) 0.56   (D) 3.42%   (E) $\frac{3}{8}$
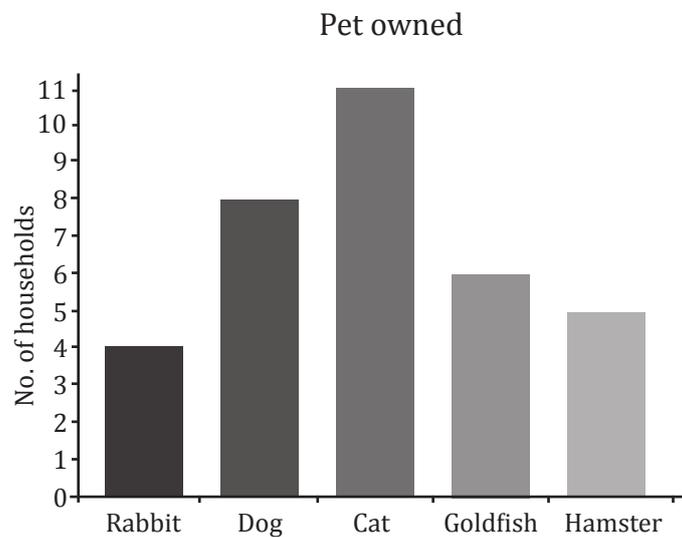
36 A group of 40 adults and 28 children went to a park. The cost of each child ticket was £4. If the group paid £372 in total, what was the cost of each adult ticket?

(A) £7   (B) £7.50   (C) £5.50   (D) £6   (E) £6.50

37 The following bar chart shows different pets owned by some households.

Pet owned

Which is the modal pet?

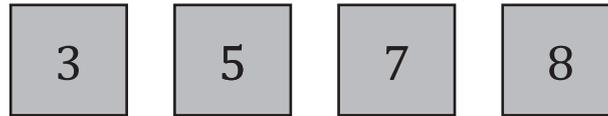(A) Rabbit   (B) Hamster   (C) Dog   (D) Cat   (E) Goldfish

38 Green paint is formed by mixing blue and yellow paint in the ratio of 4 : 6. Find the volume of yellow paint in the 450 ml of green paint.

(A) 180 ml   (B) 400 ml   (C) 270 ml   (D) 300 ml   (E) 120 ml

39 James has four number cards as shown below.

| 3 | 5 | 7 | 8 |

If he forms 2 two digit numbers using them, what is the largest sum that he can get?

(A) 158 (B) 140 (C) 113 (D) 137 (E) 122

40 There are 5 green balls, 6 yellow balls, 7 blue balls and 2 black balls in a bag. If a ball is selected at random from the bag, what is the probability that it is blue or green?

(A) $\dfrac{1}{4}$ (B) $\dfrac{6}{8}$ (C) $\dfrac{7}{20}$ (D) $\dfrac{7}{10}$ (E) $\dfrac{3}{5}$

41 Kevin thinks of a number. He multiplies it by 3 and adds 13. He then divides it by 11. The answer is 8. What is his original number?
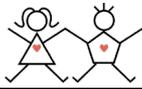
(A) 12 (B) 20 (C) 30 (D) 25 (E) 18

42 The following Venn diagram shows the choices of children for the dessert at a party. If 6 children chose both and 4 children chose none, what is the total number of children at the party?

Ice-cream 28   15 Cupcakes
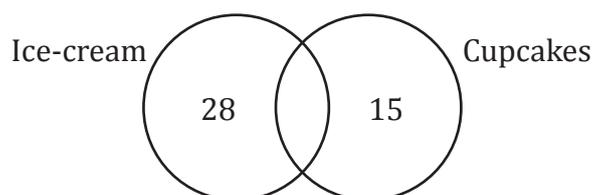
(A) 49 (B) 53 (C) 59 (D) 55 (E) 43

43 There are 27 girls in a drama club. Given that $\dfrac{3}{4}$ of the club members are girls, how many are boys?

(A) 36 (B) 18 (C) 9 (D) 12 (E) 6

44 Choose the pair of quadrilaterals whose sides are all equal.

(A) Square and rectangle (B) Parallelogram and square

(C) Rectangle and rhombus (D) Parallelogram and rhombus

(E) Square and rhombus

45 Ray is preparing strawberry milkshake by mixing strawberry juice and milk in the ratio 3 : 5. If Ray has 300 ml of strawberry juice, what is the maximum volume of milkshake that he can prepare?

(A) 500 ml (B) 350 ml (C) 800 ml (D) 530 ml (E) 650 ml
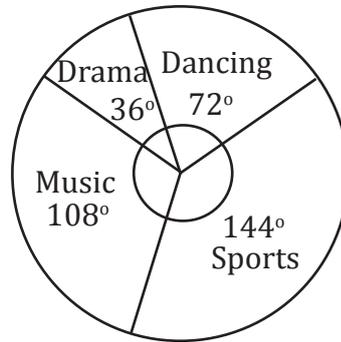
46 There are 78,459 visitors at the Opera House on New Year's Eve. What is the value of the 8 in the number 78,459?

(A) 8 (B) 80 (C) 800 (D) 8000 (E) 80000
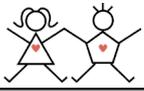
47 The following pie chart represents the favourite activities of 180 students. How many students like dancing?

(A) 72 (B) 75 (C) 108 (D) 54 (E) 36

11+ Maths SET Style (Pack 2) - Test Paper 5
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: ---