# PiAcademy

# 11+ Mathematics
# SET Style - Pack 3
# Test Paper - 10

**Instructions:**

**1.** The time allowed is 50 minutes for 48 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.

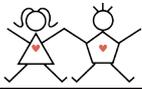Symbols used:

Go to the next page.

Do not turn the page until told to do so.

Stop working and await instructions.

**1** A car travels 40 km in 48 minutes. How long will it take to travel 150 km?

( A )   150 minutes          ( B )   125 minutes          ( C )   5 hours

( D )   3 hours              ( E )   160 minutes

**2** Which list of numbers is in order of size?

( A )   -2.3, 3.5, 1.2, -4.6, 5.4     ( B )   -3.4, 4.5, 2.1, -1.2, 2.6     ( C )   -4.6, -3.2, -2.1, 1.2, 3.6

( D )   2.1, 4.3, 5.4, -1.2, -2.4     ( E )   -1.2, 2.3, -4.2, 2.5, 3.6

**3** Find the value of a in the statement below.
$$(a \times 36) \div 9 = 32$$

( A )   9          ( B )   8          ( C )   7          ( D )   10          ( E )   12

**4** Fill in the blank.
$8147.62 = (8 \times 1000) + (1 \times 100) + (4 \times 10) + (7 \times 1) + (6 \times 0.1) + (\underline{\quad})$

( A )   2 x 0.1          ( B )   2 x 0.001          ( C )   1 x 0.003

( D )   2 x 10           ( E )   2 x 0.01

**5** Jimmy made a strawberry milkshake, with strawberry juice to milk in the ratio 3 : 4. If he made 140 ml of milkshake, find the amount of milk he used.

( A )   20 ml     ( B )   40 ml     ( C )   60 ml     ( D )   80 ml     ( E )   100 ml
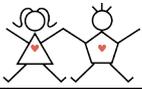
**6** Jack has a coin collection made up of 10p coins and 50p coins. If he has three times as many 10p coins as 50p coins and the total value of the coins is £2.40, how many 10p coins are in the collection?

( A )   7        ( B )   11        ( C )   9        ( D )   13        ( E )   10

**7** What is the first negative number in this sequence?

100,  93,  86, 79, ......

( A )   -1        ( B )   -5        ( C )   -7        ( D )   -2        ( E )   -3

**8** It takes 14 workers 30 minutes to construct 7 tables. How many workers would it take to construct 28 tables in one hour?

( A )   7        ( B )   14        ( C )   12        ( D )   56        ( E )   28

**9** A family orders 6 boxes of marbles. Each box contains twelve bags of marbles. Each bag contains 20 marbles. How many marbles does the family order in total?

( A )   1240        ( B )   1440        ( C )   1120        ( D )   1140        ( E )   2240

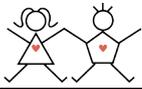**10** This pictogram shows how many Christmas gifts were bought at a shop last week.

| MONDAY | 🎁 🎁 🎁 |
| TUESDAY | 🎁 🎁 |
| WEDNESDAY | 🎁 🎁 |
| THURSDAY | 🎁 🎁 🎁 |
| FRIDAY | 🎁 🎁 |

One 🎁  = 20 gifts

How many gifts were bought from the shop last week?

( A )   200        ( B )   100        ( C )   120        ( D )   220        ( E )   180

**11** A shop has different deals as shown below:

5 pens for £20
3 pens for £12.30
6 pens for £23.40
8 pens for £30.80

Select the best deal for buying pens.

( A ) 5 pens for £20     ( B ) 6 pens for £23.40     ( C ) 8 pens for £30.80

( D ) 3 pens for £12.30     ( E ) Both 5 pens for £20 and 6 pens for £23.40

**12** A bag had 70 marbles in it and 60% of them were lost. How many were left in the bag?

( A ) 14     ( B ) 21     ( C ) 28     ( D ) 18     ( E ) 19

**13** Joanna left city P for city Q at 1:30 pm. It took her 1 hour 50 min to reach city Q. Molly started from city P at the same time but arrived in city Q 42 minutes later than Joanna. At what time did Molly arrive in city Q?
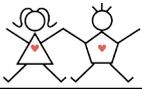
( A ) 15:20     ( B ) 13:02     ( C ) 14:02     ( D ) 16:02     ( E ) 16:20

**14** Determine the mean, median, and mode for the given data.

| **Name** | Neil | Amy | Emily | Tom | David |
|---|---|---|---|---|---|
| **Weight (kg)** | 40 | 45 | 40 | 30 | 50 |

( A ) Mean = 41, median = 40, mode = 40     ( B ) Mean = 41, median = 42.5, mode = 45

( C ) Mean = 41, median = 43, mode = 50     ( D ) Mean = 42, median = 40, mode = 40
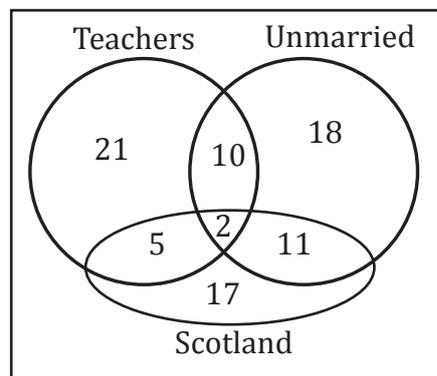
( E ) Mean = 43, median = 43.5, mode = 40

**15** Katie has £75.50. Sarah has £13.40. Charlie has £6.00. How much more does Katie have than Sarah and Charlie have altogether?

( A ) £56.10 ( B ) £62.10 ( C ) £56.50 ( D ) £48.20 ( E ) £51.60

**16** A survey of a group of people was done and the results are shown in a Venn diagram below.

How many people are married teachers who are from Scotland?
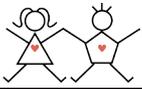
( A ) 2 ( B ) 12 ( C ) 19 ( D ) 5 ( E ) 17

**17** Solve the simultaneous equations $a + 3b = 15$ and $2a + 5b = 7$.

( A ) $a = 54, b = -23$ ( B ) $a = -54, b = 23$ ( C ) $a = -44, b = 13$

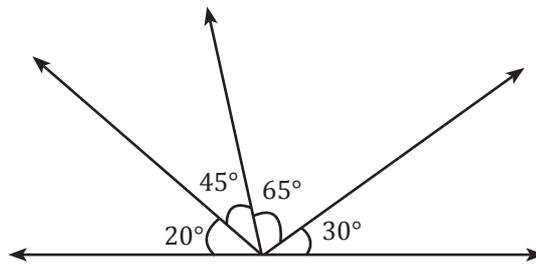( D ) $a = -44, b = 23$ ( E ) $a = -54, b = 13$

**18** 4 people go to an amusement park. The normal ticket price is £12.50 per person. They have a voucher to get a 12% discount off their tickets. How much do they save in total between them?

( A ) £5 ( B ) £6 ( C ) £7 ( D ) £8 ( E ) £6.50

**(19)** Hannah has got her December salary.

She spends $\frac{1}{4}$ of her money on her house rent.

She spends $\frac{3}{8}$ of her money on a trip to Scotland.

She spends $\frac{2}{8}$ of her money on Christmas presents.

She gives the remaining £200 to charity.

How much salary did she receive?

( A )   £2000          ( B )   £1800          ( C )   £1600

( D )   £2600          ( E )   £1400

**(20)** The double bar graph shown represents the number of tickets sold at a museum. Tickets for adults cost £7 and tickets for children cost £3. In which month did the museum make more than £22600 in ticket sales?

Tickets sold



( A )   January               ( B )   February               ( C )   March

( D )   April                 ( E )   None of these

**(21)** Suzan is currently four times as old as her sister Laura. In 12 years she will be twice the age of her sister. Find Suzan's present age.

( A )   20 years          ( B )   22 years          ( C )   28 years

( D )   24 years          ( E )   30 years

**22** How many obtuse angles are there in the figure?



(A)   0        (B)   2        (C)   4        (D)   3        (E)   5

**23** How many one-thirds are there in 18?

(A)   4        (B)   3        (C)   12        (D)   6        (E)   54

**24** Alice, Ben and Claire weigh themselves.
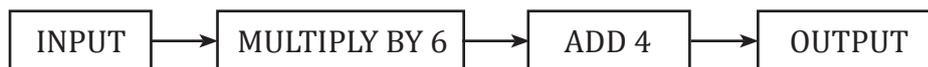Together, Alice and Ben weigh 204 kg.
Ben and Claire weigh 194 kg.
Alice and Claire weigh 186 kg.
What is their total weight in kg?

(A)   282 kg                    (B)   292 kg                    (C)   302 kg

(D)   412 kg                    (E)   182 kg

**25** Here are some instructions for a function machine.

INPUT → MULTIPLY BY 6 → ADD 4 → OUTPUT

Find the input if the output is 46.

(A)   8        (B)   7        (C)   6        (D)   9        (E)   5
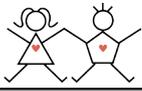
26) Kate set her alarm for 3:00 pm. When the alarm rang, she snoozed it for ten minutes. Determine the type of angle between the two hands of the clock after it snoozes.

( A )   Acute angle            ( B )   Obtuse angle            ( C )   Right angle

( D )   Straight angle         ( E )   Reflex angle

27) Sarah buys seven packets of sweets for £0.80 each. How much does Sarah spend altogether?

( A )   £4.80      ( B )   £5.20      ( C )   £6.80      ( D )   £56      ( E )   £5.60

28) Tom, John and Alice are given some money by their parents for Christmas. Tom gets twice as much as John and John gets three times as much as Alice. If they get £30 in total, how much does Tom get?

( A )   £18      ( B )   £9      ( C )   £15      ( D )   £3      ( E )   £12

29) The force applied on an object is calculated using the formula

Force = mass x acceleration

or F = m x a

Using this formula, find out the mass of the object, if F = 40 and a = 2.5.

( A )   18      ( B )   20      ( C )   16      ( D )   12      ( E )   15
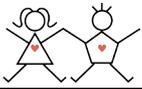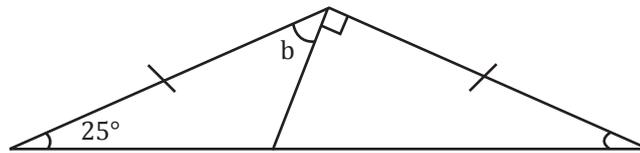
**30** The graph below shows the distance travelled by an object at a uniform speed. What is the speed of the object?

Distance ( m )

2000
1500
1000
500
0

1  2  3  4   Time (min)

( A )  2 km/min      ( B )  1.5 km/min      ( C )  2.5 km/min

( D )  1 km/min      ( E )  500 m/min
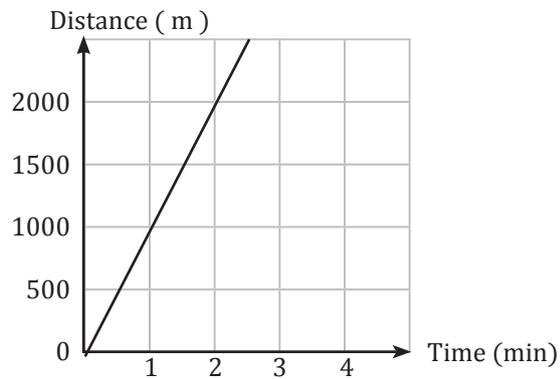
**31** Find the value of the angle b in degrees.

25°   b

( A )  20°      ( B )  25°      ( C )  30°      ( D )  35°      ( E )  40°

**32** In a group of 220 children, 80 are boys, 60 have black hair and 30 are boys who have black hair. If one child from the group is randomly selected, what is the probability that the child will be a girl who does not have black hair?

( A )  $\dfrac{1}{2}$      ( B )  $\dfrac{2}{3}$      ( C )  $\dfrac{1}{2}$      ( D )  $\dfrac{1}{4}$      ( E )  $\dfrac{5}{5}$

**33** What is 4.5 divided by $\dfrac{4}{5}$ ?

( A )  5      ( B )  2.5      ( C )  6.25      ( D )  3.25      ( E )  5.625
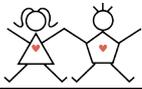
**34** I am a multiple of 7 between 50 and 110. I am also a multiple of 3. Who could I be?

( A )  56 ( B )  84 ( C )  70 ( D )  91 ( E )  98

**35** A sheet of graph paper is placed with its y-axis pointing due West and its x-axis pointing due North. A tortoise starts at point (0, 0) and slow walks 1 unit South and 2 units West. At which point does the tortoise finally arrive?
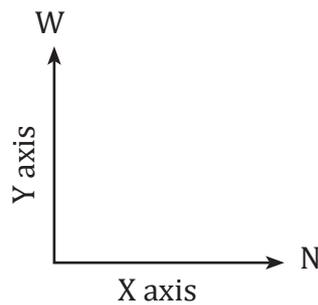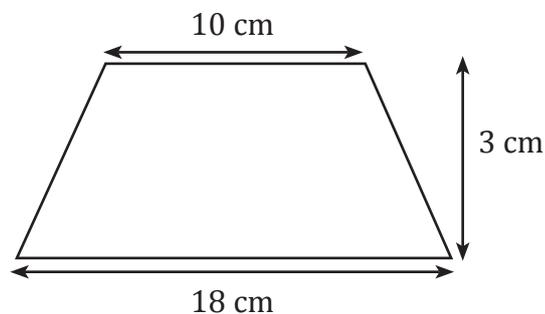


( A )  (1,2) ( B )  (-1,2) ( C )  (-3,2) ( D )  (-3,4) ( E )  (-2,1)

**36** Find the cube number from the list below.

( A )  243 ( B )  226 ( C )  729 ( D )  1729 ( E )  435

**37** What is the area of the shape below?



Not to scale

( A )  180 cm² ( B )  140 cm² ( C )  42 cm²
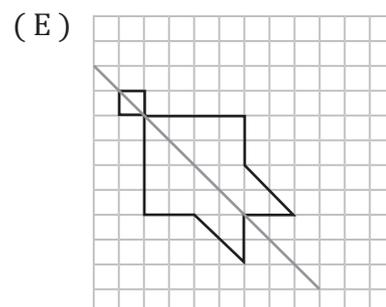
( D )  100 cm² ( E )  54 cm²
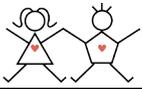
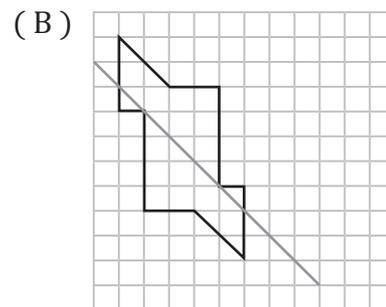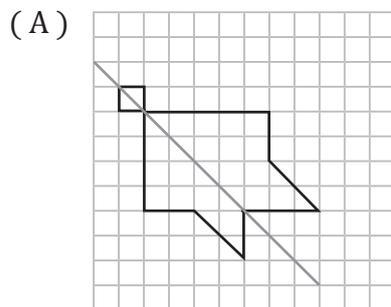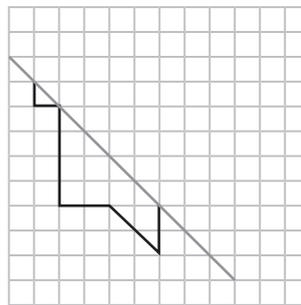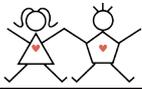**38** The area of the shape below, made up of identical squares, is 24cm². Find the perimeter of the shape.
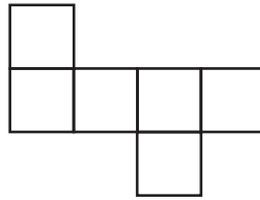
( A )    24 cm      ( B )    48 cm      ( C )    28 cm      ( D )    32 cm      ( E )    18 cm

**39** Which image correctly completes the symmetric figure below using the given line of symmetry?

( A )

( B )

( C )

( D )

( E )
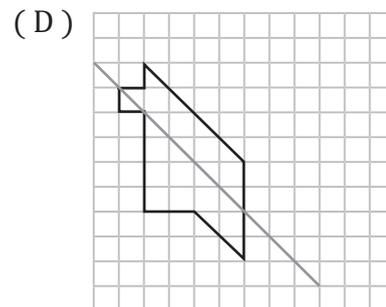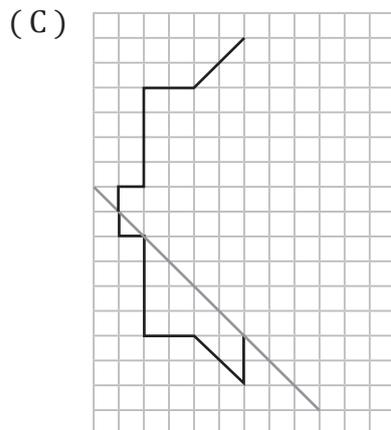
**40** How many centilitres in 0.865 litres?

( A )   86.5 cl          ( B )   8650 cl          ( C )   8.6500 cl

( D )   865000 cl        ( E )   0.0865 cl

**41** Mary has 5 orange hair clips, 5 blue hair clips, 3 black hair clips and 7 green hair clips. When she picks one hair clip at random, what is the probability that the hair clip is not orange?

( A )   $\dfrac{3}{20}$     ( B )   $\dfrac{1}{4}$     ( C )   $\dfrac{1}{5}$     ( D )   $\dfrac{3}{4}$     ( E )   $\dfrac{1}{20}$
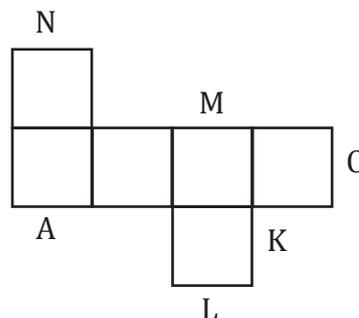
**42** Ten cubes each have a surface area of 54 cm². They are joined to make a 5 x 2 cuboid. What will the volume of the cuboid be?

( A )   90 cm³   ( B )   81 cm³   ( C )   64 cm³   ( D )   270 cm³   ( E )   180 cm³

**43** If 5 and 7 are in the same ratio as 65 and b, then find the value of b.

( A )   13       ( B )   67       ( C )   84       ( D )   98       ( E )   91

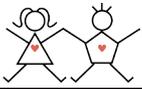**44** The diagram shows the net of a cube.
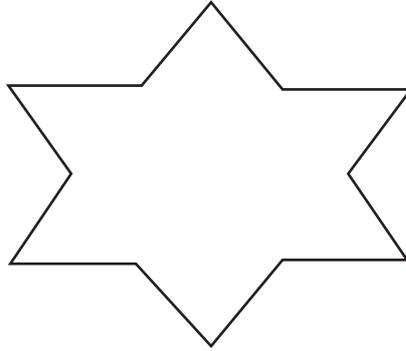


Which edge meets the edge A when the net is folded to form the cube?

( A )   K       ( B )   L       ( C )   M       ( D )   N       ( E )   O

**45** What is the order of rotational symmetry of the given figure?



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

( E )   No rotational symmetry

**46** Which number is not a common factor of 75 and 165?

( A )   1          ( B )   3          ( C )   5          ( D )   7          ( E )   15

**47** Harvey pours 30 ml of milk from a container containing 1.6 litres. How much milk is left in the container. Give your answer in millilitres.

( A )   15970 ml          ( B )   1570 ml          ( C )   15.97 ml

( D )   1.57 ml          ( E )   159970 ml

**48** Work out $24 - 2 \times 2^2 + 10 \div 2 \times 3 - 1 =$ _____.

( A )   18          ( B )   38          ( C )   35          ( D )   30          ( E )   32

# 11+ Maths SET Style (Pack 3) - Test Paper 10
## ANSWER MARKING SHEET

Name:

Date:

School Name:

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

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|
| A B C D E | A B C D E | A B C D E | A B C D E | A B C D E | A B C D E | A B C D E | A B C D E | A B C D E | A B C D E |

| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|---|---|
| A B C D E | A B C D E | A B C D E | A B C D E | A B C D E | A B C D E | A B C D E | A B C D E | A B C D E | A B C D E |

| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
|---|---|---|---|---|---|---|---|---|---|
| A B C D E | A B C D E | A B C D E | A B C D E | A B C D E | A B C D E | A B C D E | A B C D E | A B C D E | A B C D E |

| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
|---|---|---|---|---|---|---|---|---|---|
| A B C D E | A B C D E | A B C D E | A B C D E | A B C D E | A B C D E | A B C D E | A B C D E | A B C D E | A B C D E |

| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 |
|---|---|---|---|---|---|---|---|
| A B C D E | A B C D E | A B C D E | A B C D E | A B C D E | A B C D E | A B C D E | A B C D E |

## For Parents use only

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

**Comments:** ---------------------------------------------------------------------------

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