



PiAcademy

11+ Mathematics GL Style - Pack 2 Test Paper - 6

Instructions:

1. The time allowed is 50 minutes for 50 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.

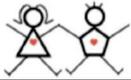


Do not turn the page until told to do so.



Stop working and await instructions.

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- 1 Ethan travelled 100 miles in his car using 20 litres of petrol. If 1 gallon is equal to 4.5 litres. How many gallons of petrol does Ethan need to travel 135 miles in the same car?
(A) 5.5 gallons (B) 6.5 gallons (C) 5 gallons (D) 7 gallons (E) 6 gallons

- 2 Mark is climbing a mountain which is 100m high. Mark goes up 10m every 2minutes and then slips down 5m. How much time will it take mark to reach the top of the mountain?
(A) 40mins (B) 36mins (C) 38mins (D) 20mins (E) 30minutes

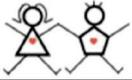
- 3 I have 'n' apples with me and my mom gave me an extra dozen apples. I want to give 4 apples to my sister and share the remaining equally between three friends. How many apples does each friend get?
(A) $\frac{(n - 4)}{3}$ (B) $3n - 4$ (C) $\frac{(n + 12)}{3}$ (D) $\frac{(n + 8)}{3}$ (E) $3n + 12$

- 4 What is the sum of the missing numbers in the sequence below?
-3, 6, -12 ,....., -48, 96,, 384
(A) 216 (B) -216 (C) -120 (D) -168 (E) 168

- 5 Which of these is closest to 1.4?
(A) 1.332 (B) $\frac{4}{3}$ (C) 133% (D) $\frac{1331}{1000}$ (E) 1.47

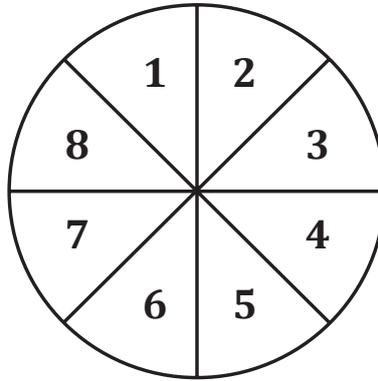
- 6 What is 120% of £12.55?
(A) £15.50 (B) £15.05 (C) £15.55 (D) £15.06 (E) £15.45





7

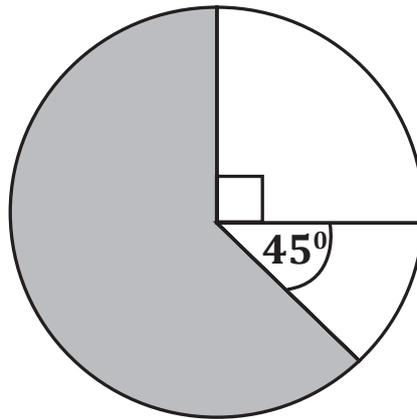
Alex spins a roulette numbered 1 to 8. What is the probability of him getting either an even number or a prime number?



- (A) $\frac{7}{8}$ (B) $\frac{3}{4}$ (C) $\frac{1}{8}$ (D) $\frac{5}{8}$ (E) $\frac{1}{2}$
-

8

What fraction of the circle below is shaded?



- (A) $\frac{1}{3}$ (B) $\frac{3}{8}$ (C) $\frac{5}{8}$ (D) $\frac{3}{5}$ (E) $\frac{2}{3}$
-

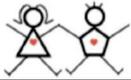
9

This number machine multiplies by 7 and subtracts 4. What is the input?



- (A) $7x + 4$ (B) $7x - 4$ (C) $x + \frac{4}{3}$ (D) $7(x - 4)$ (E) $\frac{x + 4}{7}$





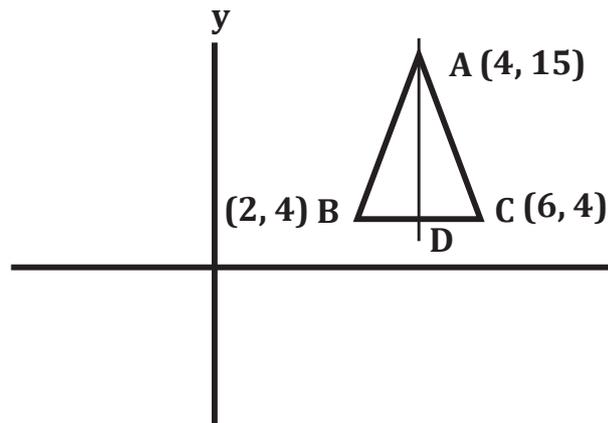
10 Which statement below is false?

- (A) $\sqrt{49} < 7.1$ (B) $3^3 + 3^2 > 35$ (C) $1\frac{2}{3} - \frac{4}{5} < \frac{13}{15}$
(D) $\frac{3}{10} - 0.05 = \frac{1}{4}$ (E) $\frac{3}{4} \div \frac{3}{5} = 1\frac{1}{4}$
-

11 In 4 football matches, the scores were 2:1, 1:2, 0:0 and 3:2 respectively. What was the average number of goals per match?

- (A) 2 (B) 3.75 (C) 2.25 (D) 3 (E) 2.75
-

12 What are the coordinates of point D?



- (A) (4, 3) (B) (2, 2) (C) (2, 5) (D) (4, 4) (E) (15, 4)
-

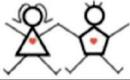
13 What is 0.0306 to the nearest thousandth?

- (A) 0.03 (B) 0.031 (C) 0.0030 (D) 0.301 (E) 0.300
-

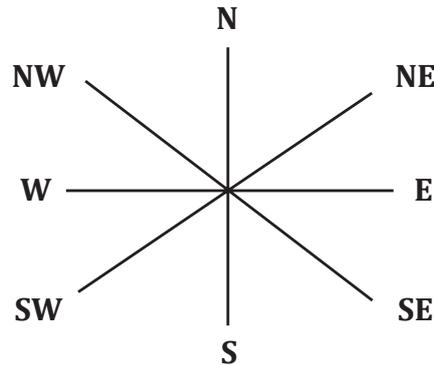
14 The area of any circle is approximately given by the formula "Area = 3.14 x radius x radius". What would be the area of a circle with a diameter of 10cm?

- (A) 31.4 m² (B) 0.785 m² (C) 314 cm² (D) 78.5 cm² (E) 0.314 m²





- 15 An ice skater faces North East (NE) and does $3\frac{1}{4}$ turns anticlockwise. Which direction does she face now?



- (A) SW (B) SE (C) NE (D) NW (E) E
-

- 16 I travel from USA to Russia, and stop over in UK. I have \$20 dollars and wish to exchange them into Roubles. The exchange rate is \$1.20 for £1.00, while 60 Roubles are worth £1.00. How many Roubles do I get for my \$20?

- (A) 600 (B) 1200 (C) 1800 (D) 1500 (E) 1000
-

- 17 A robot is at the point (3, -4) on a square grid. It has moved 3 units due North, then 4 units due East. What are its new coordinates?

- (A) (7, -1) (B) (4, -3) (C) (-1, -1) (D) (7, 1) (E) (1, 7)
-

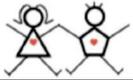
- 18 Morgan spent 25% of his monthly earning on college fees. He spent 75% of the remaining on the hostel and food. If he had £120 at the end of the month, how much money did he earn in that month?

- (A) £500 (B) £540 (C) £600 (D) £480 (E) £640
-

- 19 What is the value of $((40 \div 8) \div 4) \times 3$?

- (A) 3 (B) 4 (C) $\frac{5}{4}$ (D) $3\frac{3}{4}$ (E) $2\frac{2}{3}$

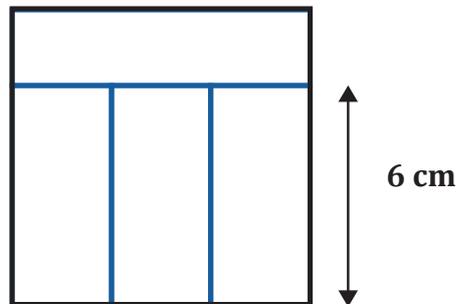




- 20 I drank 350ml from a 2.75 litre bottle of water. Then later, I drank a third of what was remaining. How much water is there in the bottle now?
- (A) 1.5 l (B) 1600 ml (C) 800 ml (D) 0.6 l (E) 1200 ml
-

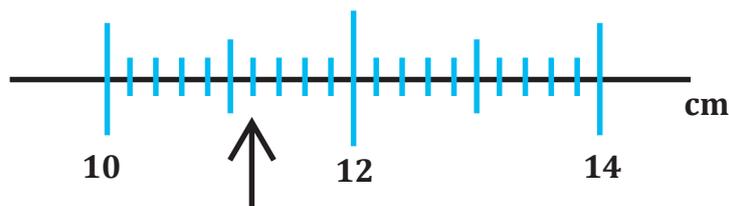
- 21 A rare vintage pair of sneakers increases in price by 20% every year. Last year they were £50. How much will they be in one year from now?
- (A) £55 (B) £62 (C) £68 (D) £60 (E) £72
-

- 22 A square is divided into 4 rectangles of equal area as shown in the diagram below. What is the area of the square?



- (A) 49 cm^2 (B) 36 cm^2 (C) 64 cm^2 (D) 81 cm^2 (E) 100 cm^2
-

- 23 What value is the arrow pointing on the ruler?

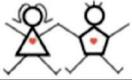


- (A) 10.6cm (B) 107mm (C) 112mm (D) 11.1cm (E) 11.55cm
-

- 24 Peter cycles 6km at a speed of 2km per hour and then he increases his speed to 4km per hour and he travels for 2 hours. What is his average speed for the whole journey?

- (A) 3 kmph (B) 3.5 kmph (C) 3.4 kmph (D) 2.8 kmph (E) 3.2 kmph





25 What is the largest 4 digit number such that the difference of the first and last digits is prime?

- (A) 9998 (B) 9999 (C) 9997 (D) 9994 (E) 9996
-

26 In a class, the number of students who play football is 3 times the number who play rugby. The total number of students in the class is 36 and everyone plays either football or rugby. How many students play rugby?

- (A) 10 (B) 9 (C) 8 (D) 27 (E) 30
-

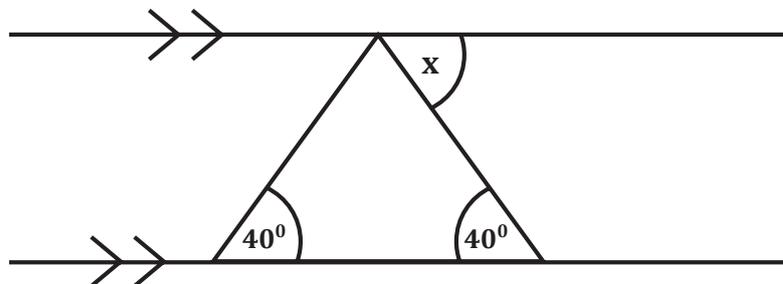
27 Alex can swim 20m in 30 seconds. How far can he swim in 2 minutes if he swims twice as fast?

- (A) 80m (B) 100m (C) 40m (D) 160m (E) 200m
-

28 If $a = 5b$, then $5a + 5b - 2a + 5b$ is equal to:

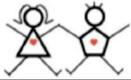
- (A) $25a$ (B) $30b$ (C) $5b$ (D) $5a$ (E) $30a$
-

29 What is the size of the angle x ?

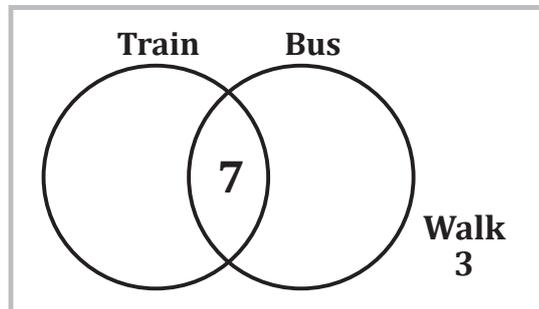


- (A) 20° (B) 30° (C) 40° (D) 50° (E) 60°



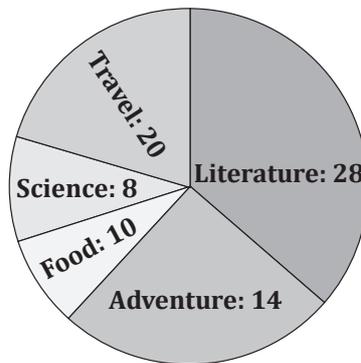


- 30 In an office there are 40 people. 25 people travel on a train to reach office, 7 people travel on both train and bus, while 3 people walk to office. How many people travel only on the bus?



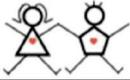
- (A) 18 (B) 21 (C) 12 (D) 9 (E) 15
-
- 31 A map has a scale 1:10000. A plot of land is represented by a rectangle on the map of length 15 cm and width 5cm. What would be the area of the plot of land?
- (A) 75km² (B) 7500m² (C) 7.5km² (D) 750m² (E) 0.75km²
-

- 32 Fiona has a variety of books. The pie chart below shows the number of each kind. What fraction of the books are on Literature?



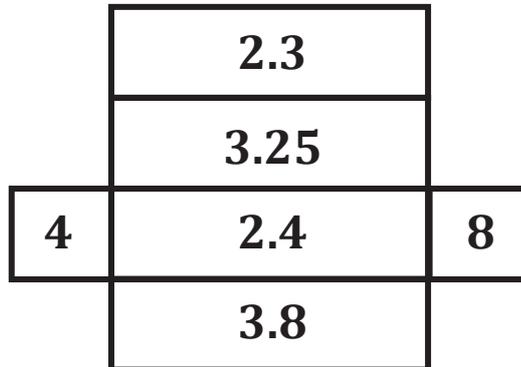
- (A) $\frac{3}{4}$ (B) $\frac{1}{4}$ (C) $\frac{7}{20}$ (D) $\frac{9}{20}$ (E) $\frac{11}{20}$
-
- 33 I want to buy a computer. I can either pay the full fee of £675.50 upfront or a deposit of £125 and then 8 payments of £78.25. How much would I save if I pay the full fee upfront?
- (A) £75.50 (B) £71.50 (C) £76.50 (D) £70.50 (E) £72.50





34

Which 2 numbers would be opposite each other when the net below is folded to make a 3D shape?



(A) 3.25 and 2.4

(B) 3.25 and 3.8

(C) 2.3 and 3.8

(D) 2.4 and 2.8

(E) 4 and 2.3

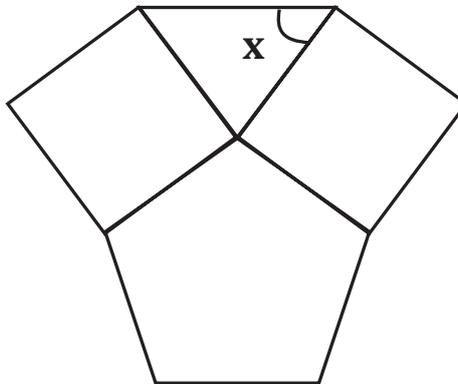
35

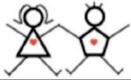
Susan was p years old 3 years ago. Carl is 3 years older than Susan. How old would Carl be in 3 years' time from now?

(A) $p+3$ (B) $p+6$ (C) $p+9$ (D) $p-3$ (E) $p-6$

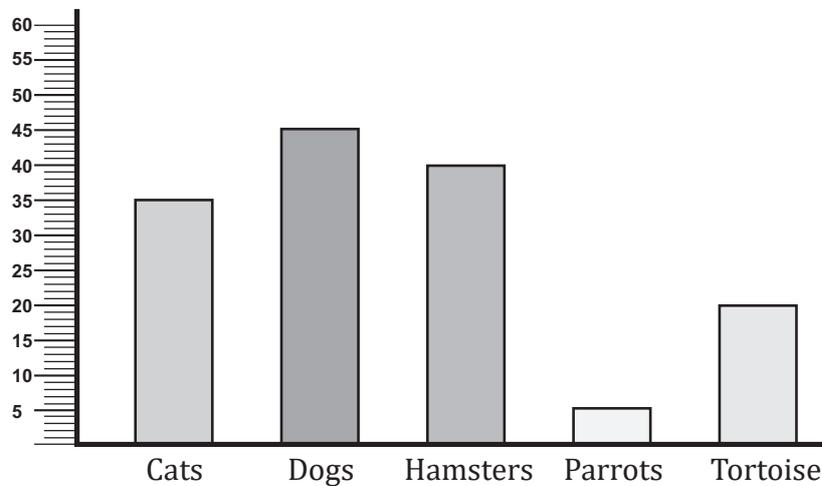
36

The diagram below is made up of 2 squares, one triangle and one regular pentagon. What is the value of angle 'x'?

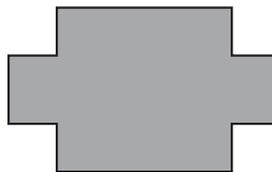
(A) 72° (B) 60° (C) 54° (D) 70° (E) 66° 



- 37 The bar chart below shows what kind of pets students have in a school. What is the ratio of the number of students with cats to parrots?

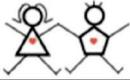


- (A) 1:7 (B) 1:8 (C) 7:1 (D) 8:1 (E) 5:2
-
- 38 I have 3 different lengths of rope. The shortest one is a third of the longest one, while the middle one is twice the length of the shortest. What is the length of the longest rope if their total combined length is 35 m?
- (A) 10m (B) 17.5m (C) $13\frac{1}{3}$ m (D) 11.66m (E) 18.5m
-
- 39 The diagram below shows a rectangular paper of length 15cm and width 5cm. Four little squares of side length 2cm are cut out from the corners and the resulting shape is shown below. What is the perimeter of the shape?



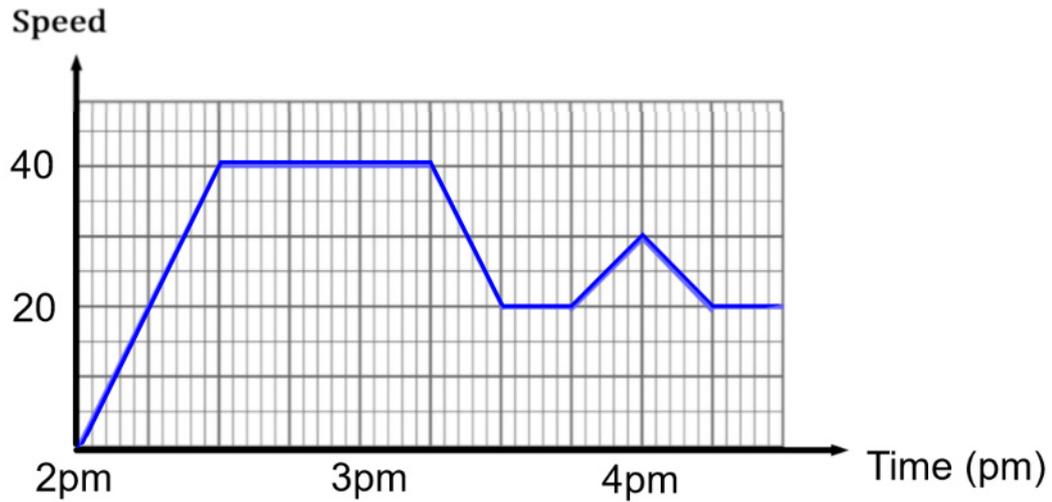
- (A) 32cm (B) 36cm (C) 38cm (D) 40cm (E) 34cm
-
- 40 Write two fifths of thirty five thousand and fifty as a number.
- (A) 10,020 (B) 12,020 (C) 14,020 (D) 1420 (E) 1220





41

I started driving my car at 2pm and drove till 4:30pm. The following speed-time graph shows how my speed changed with time. During which time intervals was I slowing down?



- (A) 2:30 - 3:15pm and 3:30 - 3:45pm (B) 2:30 - 3:15pm and 3:30 - 4pm
(C) 2:00 - 2:30pm and 3:10 - 3:30pm (D) 3:15 - 3:30pm and 4 - 4:15pm
(E) 3:15 - 4:30pm
-

42

The number of fish in a pond is 40. It is halved every year. In how many years will there be less than 3 fish?

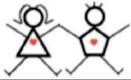
- (A) 4 (B) 2 (C) 3 (D) 5 (E) 6
-

43

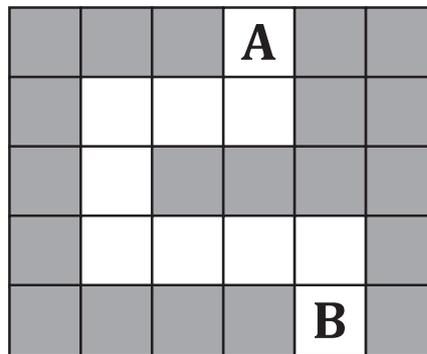
I start out at 11.53am. I jog 15km at a pace of 6km per hour. Then I walk 7km at a pace of 4km per hour. Then I swim 400m at a speed of 2 metres per 3 seconds. What time is it now?

- (A) 3:18pm (B) 3:10pm (C) 4:18pm (D) 4:25pm (E) 3:15pm





- 44 Rose wants to go to point B from point A in the given grid. She can only MOVE FORWARD, TURN RIGHT 90° and TURN LEFT 90° .



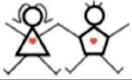
Guide Rose by giving her the instructions that will help her reach point B?

- (A) MOVE FORWARD 2, TURN RIGHT 90° ,
MOVE FORWARD 3, TURN LEFT 90° ,
MOVE FORWARD 3, TURN LEFT 90° ,
MOVE FORWARD 4, TURN RIGHT 90° ,
MOVE FORWARD 2
- (B) MOVE FORWARD 2, TURN LEFT 90° ,
MOVE FORWARD 3, TURN RIGHT 90° ,
MOVE FORWARD 3, TURN LEFT 90° ,
MOVE FORWARD 4, TURN RIGHT 90° ,
MOVE FORWARD 2
- (C) MOVE FORWARD 1, TURN RIGHT 90° ,
MOVE FORWARD 2, TURN LEFT 90° ,
MOVE FORWARD 2, TURN LEFT 90° ,
MOVE FORWARD 3, TURN RIGHT 90° ,
MOVE FORWARD 1
- (D) MOVE FORWARD 2, TURN RIGHT 90° ,
MOVE FORWARD 3, TURN LEFT 90° ,
MOVE FORWARD 3, TURN RIGHT 90° ,
MOVE FORWARD 4, TURN LEFT 90° ,
MOVE FORWARD 2
- (E) MOVE FORWARD 1, TURN RIGHT 90° ,
MOVE FORWARD 2, TURN LEFT 90° ,
MOVE FORWARD 2, TURN RIGHT 90° ,
MOVE FORWARD 3, TURN RIGHT 90° ,
MOVE FORWARD 1
-

- 45 On a grazing field, there are 3 black sheep for every 11 white sheep. If there are 12 black sheep on the field, how many sheep are there altogether?

- (A) 44 (B) 60 (C) 48 (D) 56 (E) 66





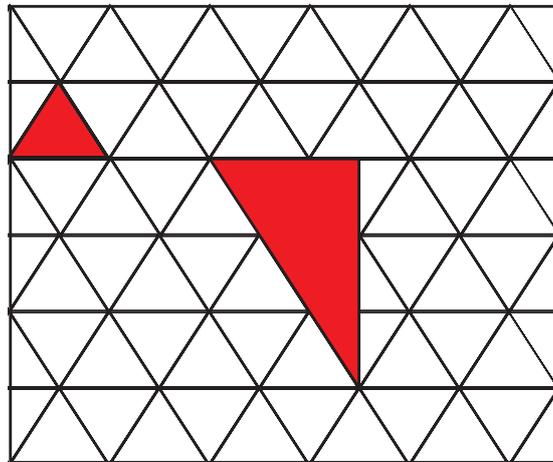
46 A football coach has 5 candidates for a striker. He wants to pick 2 out of 5. How many possible combinations are there?

- (A) 20 (B) 10 (C) 5 (D) 8 (E) 12
-

47 One inch is roughly 2.5cm, while 1 foot is roughly 30cm. How many metres are there in 5 feet 5 inches?

- (A) 1.5m (B) 1.625m (C) 1.825m (D) 1.6m (E) 1.55m
-

48 On the grid below, the area of a small red equilateral triangle is 9 square units. What is the area of the large red triangle? (In square units)

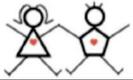


- (A) 40 (B) 45 (C) 36 (D) 45.5 (E) 40.5
-

49 If $6x + 8 = 50$, then what is the value of y in $xy + x = 42$?

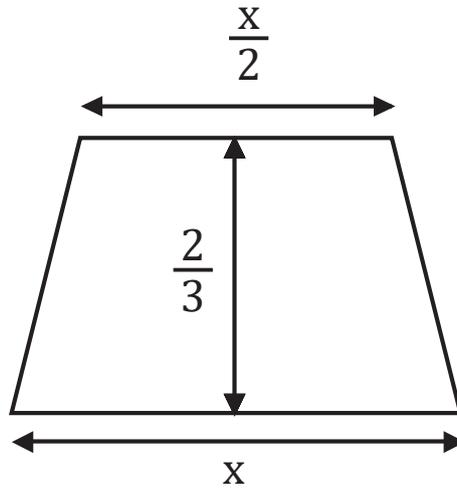
- (A) 8 (B) 6 (C) 7 (D) 5 (E) 9





50

The diagram shows a trapezium with some dimensions.
What is its area (in square units) ?



(A) $\frac{1}{2}$

(B) $\frac{x^2}{2}$

(C) $\frac{3x}{20}$

(D) $\frac{x}{2}$

(E) $\frac{2x}{3}$





Name: _____

Date: _____

School Name: _____

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

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50

For Parents use only

Marks Scored: Time taken:

Comments:

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