

PiAcademy

11+ Mathematics GL Style - Pack 2 Test Paper - 8

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.

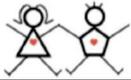


Do not turn the page until told to do so.



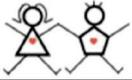
Stop working and await instructions.

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- 1 How many three digit numbers can have the product of the digits equal 16?
- (A) 6 (B) 8 (C) 10 (D) 9 (E) 7
-
- 2 Rob has a rectangular shaped paper measuring 20cm by 12cm. He folded the paper repeatedly in half, along the shorter line of symmetry. What will be the length of the shape after 3 folds? (length = longer side)
- (A) 10cm (B) 5cm (C) 6cm (D) 3cm (E) 4cm
-
- 3 Which of the following is closest to (-1) ?
- (A) -1.11 (B) $-\frac{11}{10}$ (C) $-\frac{9}{10}$ (D) -0.98 (E) -0.91
-
- 4 What is the next number in the sequence 20, 16, 11, 5, ... ?
- (A) 0 (B) -1 (C) -2 (D) 2 (E) 1
-
- 5 I bought 20 concert ticket for £12 each. I discarded two tickets because they were torn, and sold the rest at 25% extra cost. What is my profit?
- (A) £20 (B) £15 (C) £35 (D) £30 (E) £25
-
- 6 A 2.5 litre bottle is half full of water and Joe drank half of that. How much water is left in the bottle?
- (A) $\frac{5}{8}$ litres (B) $\frac{3}{4}$ litres (C) 0.6 litres (D) 1.25 litres (E) 0.55 litres





7 What is the mean of $\frac{1}{3}$, $4\frac{1}{4}$, $5\frac{3}{4}$, $3\frac{2}{3}$?

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

8 This number machine divides by 4, then subtracts 3 and then multiplies the result by 3. What is the output?



- (A) 0.5 (B) 1.5 (C) 2.5 (D) -1.5 (E) -2.5
-

9 I have '5n' bananas and I share them equally between three people. Then each person buys '2n' bananas more. How many bananas does each person have now?

- (A) $5n + 3$ (B) $\frac{5n}{3} + 2$ (C) $7n$ (D) $\frac{5n}{3} - 2a$ (E) $\frac{11n}{3}$
-

10 Which statement below is true?

- (A) $5^3 \div 10 = 1.25$ (B) $\sqrt{225} > 15$ (C) $1\frac{9}{10} - \frac{4}{5} < \frac{8}{15}$
- (D) 20% of $\frac{19}{10} = \frac{19}{50}$ (E) $(\frac{3}{4} \times \frac{3}{5}) \div \frac{1}{20} = \frac{20}{9}$
-

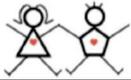
11 Jack has £10. He wants to buy one newspaper for £1.10 and as many chocolate bars as he can for £1.20 each. How much change will he have left?

- (A) £0.20 (B) £0.40 (C) 50p (D) £1.50 (E) 90p
-

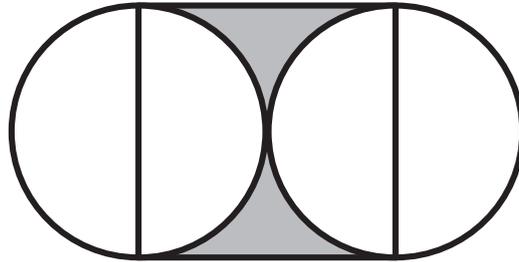
12 Stan has £60. He shares this between himself, Jessica and Alan in the ratio of 5:4:3 respectively. What is the total sum that Jessica and Alan get?

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





- 13 The diagram below shows two identical circles overlapped by a square. The square has a side length of 20mm. What is the area of the shaded portion?
(Area of the circle is given by the formula, $A = 3.14 \times \text{Radius} \times \text{Radius}$)

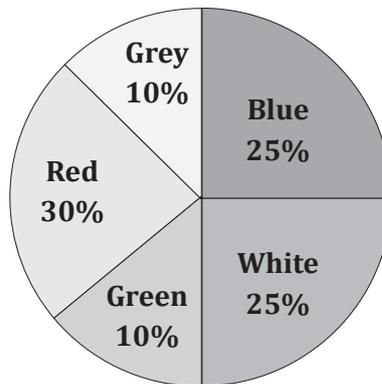


- (A) 52 mm^2 (B) 74 mm^2 (C) 56 mm^2 (D) 86 mm^2 (E) 94 mm^2
-

- 14 A large cube is made up of 125 small cubes. What is the number of the small cubes that exactly touch 5 other small cubes face to face?

- (A) 36 (B) 54 (C) 24 (D) 48 (E) 12
-

- 15 The pie chart shows the percentage of T-shirts of different colours in a shop. If the total number of grey and red shirts is 80 altogether, how many shirts are there in total (all colours)?

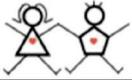


- (A) 120 (B) 150 (C) 190 (D) 200 (E) 220
-

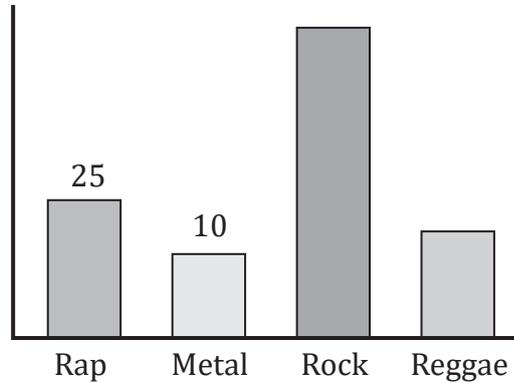
- 16 The price of a train ticket this year is 'm'. It increases by a quarter every year. What will be its price the year after next ?

- (A) $\frac{25m}{16}$ (B) $\frac{5m}{4}$ (C) $\frac{21m}{16}$ (D) $\frac{4m}{5}$ (E) $\frac{16m}{25}$

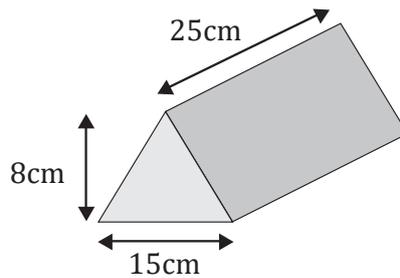




- 17 The bar chart shows the number of records of various genres in a music shop. There are 111 records in total. How many reggae records are there if the number of rock records is three times the number of reggae records?

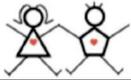


- (A) 21 (B) 19 (C) 17 (D) 58 (E) 55
-
- 18 The perimeter of an isosceles triangle with base 12cm is 48cm. What is the length of its slanted side?
- (A) 10cm (B) 14cm (C) 18cm (D) 20cm (E) 21cm
-
- 19 What is the volume of the triangular prism below?



- (A) 1000cm^3 (B) 1500cm^3 (C) 1200cm^3 (D) 2500cm^3 (E) 3500cm^3
-
- 20 Charlie was 'n' years old 4 years ago. His sister would be 'n+6' years old in one year from now. What is the sum of their ages?
- (A) $n + 9$ (B) $2n + 9$ (C) $2n - 9$ (D) $2n + 1$ (E) $n + 8$





21 There are 'n' white balls and $\frac{n}{3}$ red balls in a bag. At random, Jack takes out a ball. What is the probability that the ball is red?

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

22 Tom walks a distance of 10km at a rate of 4km per hour. If he runs twice as fast as he walks, how much time will he take to run 26km?

- (A) 3 hours 30 mins (B) 3 hours 25 mins (C) 3 hours 15 mins
(D) 2 hours 30 mins (E) 2 hours 45 mins
-

23 There are 4 bowls full of bananas and 3 bowls full of apples. The total number of fruits altogether is 30. Each bowl can have only 2 apples. How many bananas are there in each bowl?

- (A) 2 (B) 3 (C) 6 (D) 7 (E) 9
-

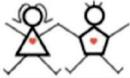
24 If $x = \frac{y}{7}$, what is $21x + 3$?

- (A) $21y + 3$ (B) $7y + 3$ (C) $14y + 3$ (D) $y + 3$ (E) $3y + 3$
-

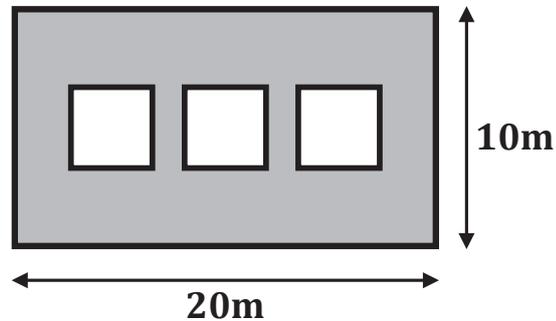
25 A straight road of length 3.5km is measured as 14cm on a map. What is the scale of the map?

- (A) 1:25000 (B) 1:50000 (C) 1:2500 (D) 1:10000 (E) 1:250

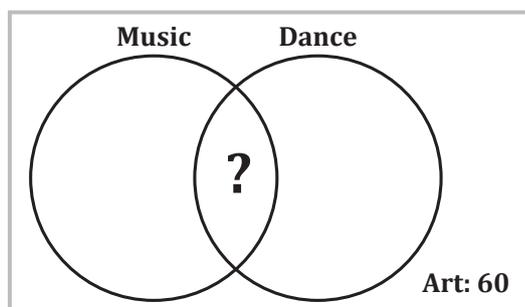




- 26 I have a rectangular patio of length 20m and width 10 m. I want to put three square flower pots inside, each of side length 3m as shown in the picture below. The rest of the patio will have a walkway, shaded grey in the picture. What is the area of the walkway?

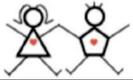


- (A) 173m^2 (B) 163m^2 (C) 167m^2 (D) 175m^2 (E) 183m^2
-
- 27 There are 120 students in year 6. 45 are taking music classes, 25 are taking dance classes. If the number of students ONLY taking dance classes is four times less than the number of students taking art classes, how many students are taking both music and dance classes?

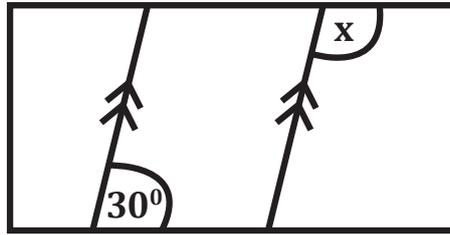


- (A) 10 (B) 15 (C) 12 (D) 20 (E) 25
-
- 28 The chances of Sasha winning a 100m sprint are 40%. Out of 40 races, how many is she likely to win?
- (A) 5 (B) 16 (C) 10 (D) 12 (E) 20

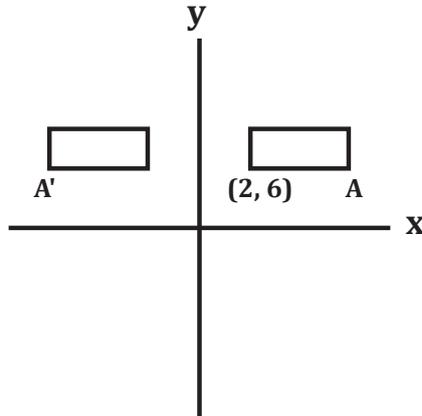




- 29 The picture below shows a rectangle with two parallel lines inside. What is the size of angle x ?



- (A) 150° (B) 30° (C) 120° (D) 60° (E) 140°
-
- 30 A rectangle of length 8 units, with point A, on the grid below is reflected across the y-axis. What are the new coordinates of the point A (marked A') ?

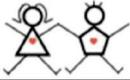


- (A) $(-4, 6)$ (B) $(-8, 6)$ (C) $(-10, 6)$ (D) $(-6, 10)$ (E) $(-8, 6)$
-
- 31 Circumference of any circle is given by the formula "circumference = $2 \times 3.14 \times$ radius". What is the radius of a circle with circumference 62.8cm?

- (A) 12.5cm (B) 10cm (C) 5cm (D) 20cm (E) 7.5cm
-
- 32 There are approximately 30cm in one foot, and three feet in one yard. What is the length of 9 yards?

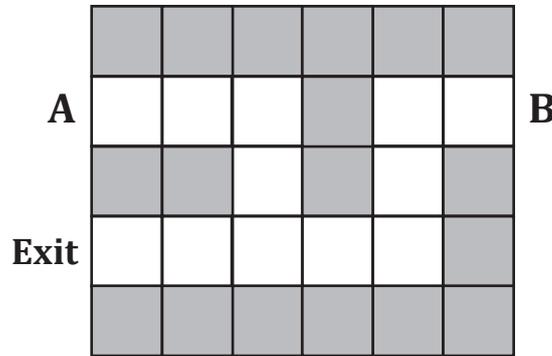
- (A) 800cm (B) 7m (C) 900cm (D) 8.1 m (E) 820cm





33

Bob is standing at point B outside a maze like shown in the figure and his robot is standing at point A on the opposite side of the maze. Bob wants to guide his robot to reach the exit point by travelling through the maze. What instructions should Bob give to his robot?



Note: The robot can only MOVE FORWARD, TURN RIGHT 90° and TURN LEFT 90° .

- (A) MOVE FORWARD 2, TURN LEFT 90° ,
MOVE FORWARD 3, TURN RIGHT 90° ,
MOVE FORWARD 5
- (B) MOVE FORWARD 2, TURN RIGHT 90° ,
MOVE FORWARD 3, TURN LEFT 90° ,
MOVE FORWARD 5
- (C) MOVE FORWARD 3, TURN RIGHT 90° ,
MOVE FORWARD 2, TURN LEFT 90° ,
MOVE FORWARD 3
- (D) MOVE FORWARD 3, TURN RIGHT 90° ,
MOVE FORWARD 2, TURN RIGHT 90° ,
MOVE FORWARD 3
- (E) MOVE FORWARD 3, TURN RIGHT 90° ,
MOVE FORWARD 3, TURN RIGHT 90° ,
MOVE FORWARD 3
-

34

I have 4 numbers: 7, 24, and two more. If their range is twice their mean, what could the two other numbers be?

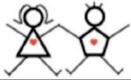
- (A) 4 and 22 (B) 5 and 25 (C) 4 and 5 (D) 4 and 6 (E) 12 and 20
-

35

Write 'three wholes and seventy three thousandths' as a number.

- (A) 3.73 (B) 3.0073 (C) 3.703 (D) 3.0703 (E) 3.073





36 What is $8 \div 30 + 4 \div ((40 \times 3) \div 8)$?

- (A) $\frac{7}{15}$ (B) $\frac{8}{15}$ (C) $\frac{15}{8}$ (D) $\frac{4}{7}$ (E) $\frac{4}{9}$
-

37 How many different 4 letter codes can be formed by the letters C, A, T, S?
(Letters cannot be repeated more than once in a code)

- (A) 8 (B) 12 (C) 16 (D) 24 (E) 32
-

38 What is half of $(0.1)^2$?

- (A) $\frac{1}{200}$ (B) $\frac{1}{100}$ (C) $\frac{1}{2000}$ (D) $\frac{1}{1000}$ (E) $\frac{1}{500}$
-

39 A sum of money is split in the ratio 2: 3: 4. The smallest part is £80. What is the total sum?

- (A) £270 (B) £360 (C) £350 (D) £450 (E) £300
-

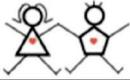
40 In a shop, there are two black shirts for every 8 white shirts. There are 6 blue shirts for every 1 black shirt. If there are 14 black shirts, how many shirts are there altogether?

- (A) 154 (B) 156 (C) 128 (D) 160 (E) 166
-

41 If x is an even number, then $3x - 6$ is:

- (A) Divisible by 3 (B) Odd and prime
(C) Even and divisible by 6 (D) Odd and divisible by 6
(E) Odd and divisible by 9

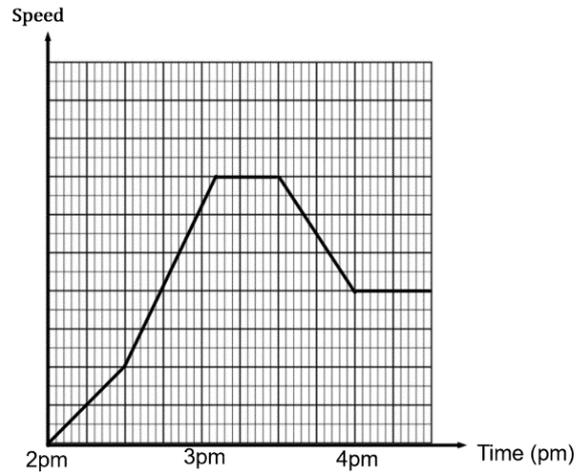




42 What is the sum of the smallest 4 digit number divisible by 3 and the largest 4 digit number divisible by 5?

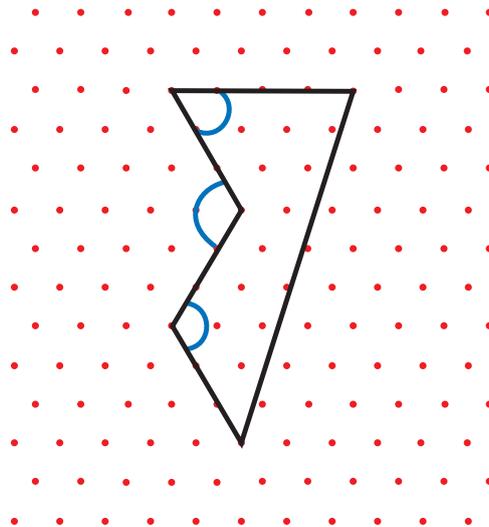
- (A) 9997 (B) 11997 (C) 10997 (D) 10995 (E) 11005

43 The graph below shows the speed of a car over a certain time interval. At what time interval was my car's acceleration the strongest?



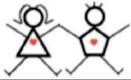
- (A) 3:10 pm – 3:30 pm (B) 2:15 pm – 2:30 pm (C) 2:30 pm – 3:10 pm
(E) 4 pm – 4:30 pm (D) 3:30 pm – 4 pm

44 What is the sum of the marked angles on the triangular dotted grid below?



- (A) 240° (B) 220° (C) 300° (D) 280° (E) 360°





- 45 The watch below is 3 minutes and 24 seconds behind the correct time. What was the correct time 11 hours and 25 minutes ago?



- (A) 02:45:36 (B) 03:45:24 (C) 02:35:36
(D) 03:45:35 (E) 01:45:36
-

- 46 The table below shows the time taken for a bus to travel from Bristol to Swindon. A train also runs from Bristol to Swindon. It leaves Bristol 8 mins after the bus, and usually takes 31 minutes less than the bus to arrive in Swindon. However, it is delayed by 12 mins. what time does it arrive in Swindon?

	Bus Timetable
Bristol	13:15 pm
Bath	13:35 pm
Swindon	14:31 pm

- (A) 14:10pm (B) 14:15pm (C) 14:20pm (D) 14:25pm (E) 14:22pm
-

- 47 The following table gives nutritional information for a pack of crisps. How many grams of carbohydrates are there in a 30 gram pack?

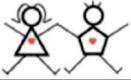
Nutritional Information Per 100 Grams	
Fats	35 g
Carbohydrates	45 g
Proteins	17 g
Salt	3 g

- (A) 10.5g (B) 11.5g (C) 12.3g (D) 13.3g (E) 13.5 g
-

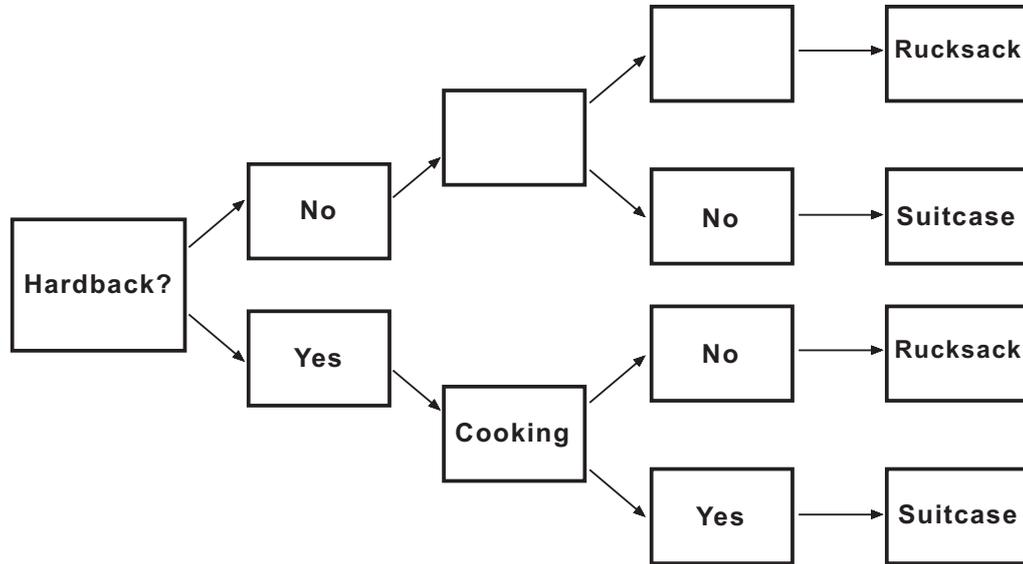
- 48 If x is three times y , and y added to 8 is 25, what is x ?

- (A) 51 (B) 49 (C) 50 (D) 55 (E) 45





- 49 Kate has some cooking and travel books, both paperback and hardback. She uses the flow chart to sort these items either in a rucksack or a suitcase. If it is a paperback, then it goes into a rucksack only if it is a travel book. If it is a hardback and cooking book, then it goes in a suitcase. What should be the 2 missing statements below?



- (A) Travel and Yes (B) Cooking and Yes (C) No and Travel
(D) Yes and Travel (E) Cooking and No

- 50 Jayden has a large collection of $1 \times 1 \times 1$ cubes. He glued them together to make a big cube of size $5 \times 5 \times 5$ and then coloured the surface of the big cube in blue. How many of small cubes have none of the faces coloured?

- (A) 64 (B) 75 (C) 27 (D) 35 (E) 60





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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