

PiAcademy

11+ Mathematics GL Style - Pack 2 Test Paper - 7

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:



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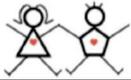


Do not turn the page until told to do so.



Stop working and await instructions.

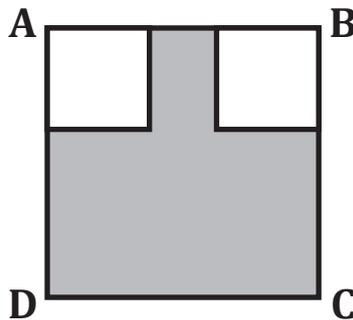
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- 1 I have a fruit basket which contain mangoes and bananas. The ratio of mangoes to bananas is 4:5. When I remove one mango the ratio changes to 7:9. How many bananas are there in the basket?

(A) 15 (B) 35 (C) 20 (D) 45 (E) 25

- 2 The diagram shows two identical small squares inside the big square ABCD. The perimeter of the shaded region is 36cm. What is the area of the square ABCD?



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

- 3 A pair of sneakers cost £40. They are reduced by 10% in a sale. Then they are reduced by a further 25%. How much are they now?

(A) £25 (B) £27 (C) £30 (D) £32 (E) £34

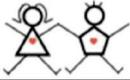
- 4 A quarter of a 2.8 litre jug is full. I pour 350 ml of water into the jug. How much more water do I need to pour into the jug to fill it completely ?

(A) 1625 ml (B) 1.75 L (C) 1575 ml (D) 1.675 L (E) 1700 ml

- 5 If $v = u + at$, and it is given that $v = 3u$, $u = 10$ and $a = 8$. What is the value of t ?

(A) 2 (B) 2.2 (C) 2.5 (D) 3 (E) 3.5





6 What is the first negative number in the sequence 200, 193, 186, 179,?

- (A) -3 (B) -4 (C) -6 (D) -1 (E) -2
-

7 Arrange in order starting with smallest: -0.09 , $-\frac{11}{10}$, -0.11 , $-\frac{3}{25}$

- (A) $-\frac{11}{10}$, $-\frac{3}{25}$, -0.11 , -0.09 (B) -0.09 , $-\frac{11}{10}$, -0.11 , $-\frac{3}{25}$
- (C) -0.09 , $-\frac{3}{25}$, $-\frac{11}{10}$, -0.11 (D) $-\frac{11}{10}$, -0.11 , -0.09 , $-\frac{3}{25}$
- (E) -0.09 , -0.11 , $-\frac{11}{10}$, $-\frac{3}{25}$
-

8 I have x apples. I eat a third of them, and split the remaining equally between Alex and Joe. Joe then gives half of his apples to Alex. How many apples does Alex get finally?

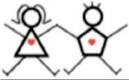
- (A) $\frac{x}{6}$ (B) $\frac{2x}{3}$ (C) $\frac{x}{3}$ (D) $\frac{x}{2}$ (E) $\frac{3x}{4}$
-

9 The number machine below takes the input, multiplies it by $\frac{3}{4}$ and adds 4. What is the input if the output is 25?

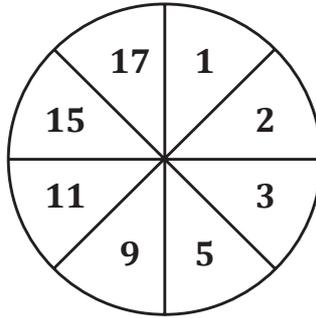


- (A) 22 (B) $22\frac{3}{4}$ (C) 24 (D) 28 (E) $20\frac{1}{4}$





- 10 A spinner is numbered 1, 2, 3, 5, 9, 11, 15, 17.
What is the probability that it stops at an odd number that is NOT prime when spun?



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

- 11 Susan and Stacy split £72 between them in the ratio $1 : \frac{4}{5}$ respectively.
How much does Stacy get?

- (A) £25 (B) £45 (C) £35 (D) £40 (E) £32
-

- 12 I have some concert tickets, while Joe has 3 tickets more than me. If the total number of tickets we have is 51, how many tickets do I have?

- (A) 24 (B) 20 (C) 27 (D) 30 (E) 21
-

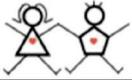
- 13 A map has a scale 1:60000. What is the area of a plot of land that is represented by a rectangle of length 10cm and width 6 cm on the map?

- (A) 20km² (B) 21.5km² (C) 20.6km² (D) 22km² (E) 21.6 km²
-

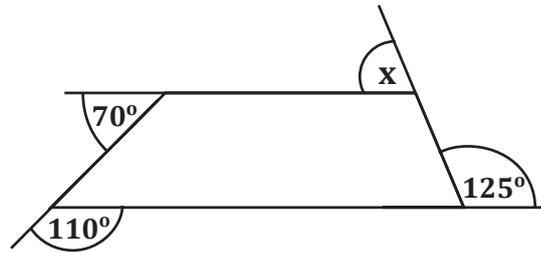
- 14 Jack drives his motorcycle at a speed of 60 km per hour, for 2 hours and 45 minutes. Then he reduces his speed and drives at a speed of 40km per hour for further $1\frac{1}{2}$ hour. What is the total distance he has covered?

- (A) 315 km (B) 325 km (C) 215 km (D) 225 km (E) 245 km





15 What is the value of the angle marked x ?

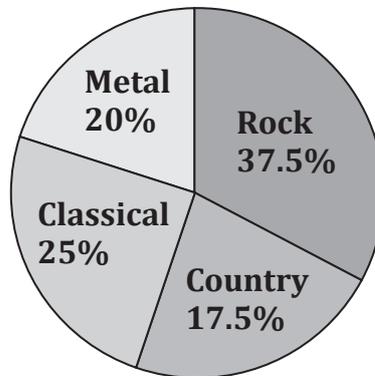


- (A) 55° (B) 45° (C) 60° (D) 65° (E) 75°
-

16 The speed of a train is 72km per hour. What is this speed in miles per hour, if 1 mile is approximately 1.6km?

- (A) 40 (B) 45 (C) 50 (D) 55 (E) 70
-

17 The pie chart below shows the percentage of various record genres in a music store. If 15 records are under Rock music, how many Country records are there?

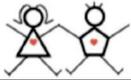


- (A) 8 (B) 10 (C) 6 (D) 9 (E) 7
-

18 In a town, there are two currency exchanges, A and B. In A, the exchange rate is £1 pound for \$1.20, while in B it is \$1 for £0.80. How many more dollars would I get if I change £10 into dollars in B, rather than A?

- (A) \$0.05 (B) \$0.20 (C) \$0.50 (D) \$0.75 (E) \$1.50

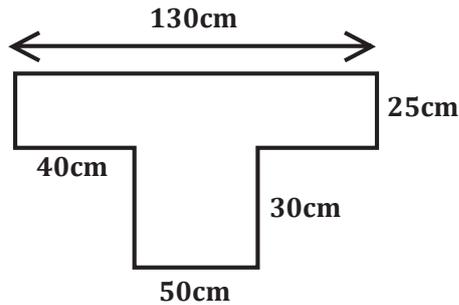




19 What is the average of p , $p - 3$, $p + 6$ and $5 - p$?

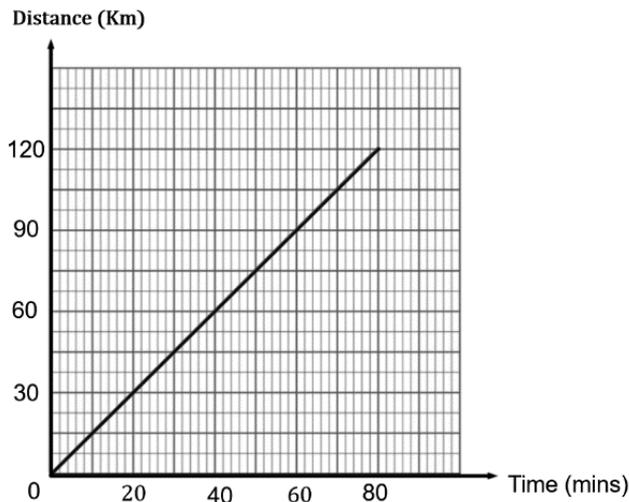
- (A) $p + 2$ (B) $\frac{p + 4}{2}$ (C) $\frac{p - 4}{2}$ (D) $\frac{p}{4} + 2$ (E) $\frac{p}{4} - 2$
-

20 A wooden block has the shape given below. What is its area?



- (A) 4.75 m^2 (B) 0.475 m^2 (C) 5250 cm^2 (D) 5.25 m^2 (E) 475 cm^2
-

21 The distance-time graph below shows the distance a car has travelled. What was its speed in metres per second?

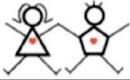


- (A) 90 (B) 45 (C) 25 (D) 30 (E) 50
-

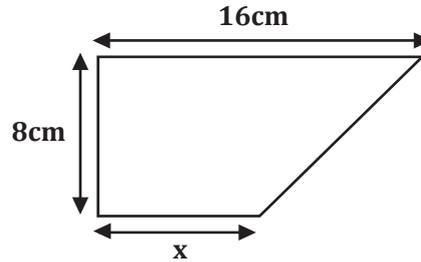
22 An employee works 40 hours per week. He gets paid £20 per hour. His salary is increased by 15%. How much does he get per week now?

- (A) £840 (B) £960 (C) £940 (D) £820 (E) £920





- 23 The area of a shape below is 96cm^2 . What is the length x ?



- (A) 7cm (B) 6cm (C) 8cm (D) 9cm (E) 12cm
-

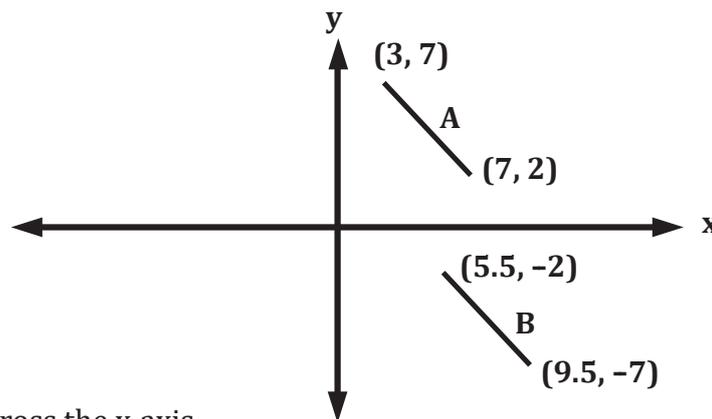
- 24 I think of a whole number, triple it, then add two. The answer is less than 90. What is the maximum possible value of the number?

- (A) 26 (B) 27 (C) 28 (D) 29 (E) 30
-

- 25 Sonya is half the age of Sunny. Sunny is 3 times as old as Sharma. Sharma is 4 years younger than Sonya. What is the age of Sunny?

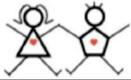
- (A) 12 years (B) 8 years (C) 30 years (D) 24 years (E) 15 years
-

- 26 What could be the transformation that takes line A onto line B?

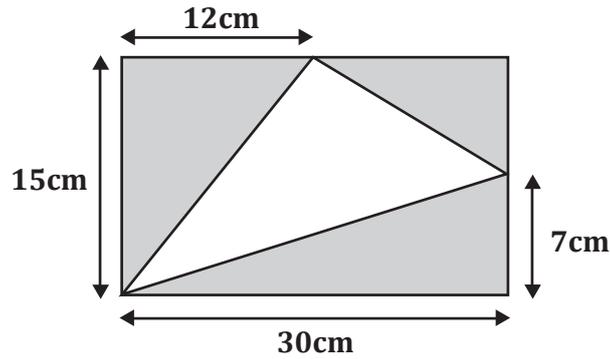


- (A) Reflect across the x -axis
(B) Move down by 3 units then move left by 2.5 units
(C) Move down by 9 units then move right by 2.5 units
(D) Move right by 2.5 units then move down by 7 units
(E) Reflect across the y -axis



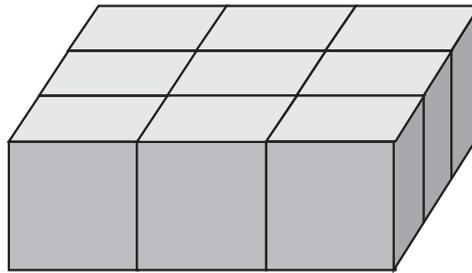


27 What is the area of the shaded part of the rectangle below?



- (A) 267 cm^2 (B) 237 cm^2 (C) 247 cm^2 (D) 285 cm^2 (E) 295 cm^2
-

28 The solid shown below is made by joining 9 cubes of the same volume. If the total volume of the solid is 72 cm^3 . What is the surface area of the solid?



- (A) 96 cm^2 (B) 72 cm^2 (C) 120 cm^2 (D) 100 cm^2 (E) 81 cm^2
-

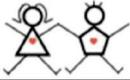
29 I am facing North East (NE). I turned three eighths of a full turn anticlockwise and then I turned 45° clockwise. Where am I facing now?

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

30 The sum of two numbers is 35, and the difference between them is 9. What is the larger number?

- (A) 13 (B) 22 (C) 17 (D) 19 (E) 21





31 What is $9 \div ((40 \div 6) \times 3)$?

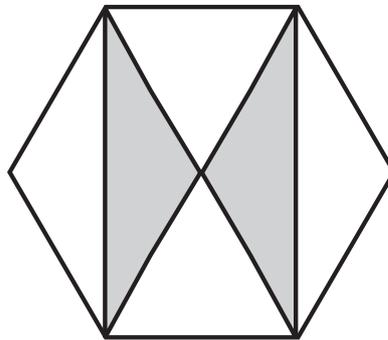
- (A) 0.55 (B) $\frac{9}{20}$ (C) $\frac{7}{15}$ (D) 0.4 (E) 0.35
-

32 Clock A shows the time in London. Clock B shows the time in Bucharest, 2 hours 20 minutes later, on the same day. What is the time difference between London and Bucharest?



- (A) 1 hour (B) 1 hour 10 mins (C) 2 hours
(D) 2 hours 10 mins (E) 3 hours
-

33 What fraction of the regular hexagon is shaded?

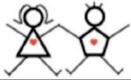


- (A) $\frac{1}{5}$ (B) $\frac{3}{8}$ (C) $\frac{1}{3}$ (D) $\frac{2}{5}$ (E) $\frac{3}{7}$
-

34 If x is an odd number, then $2x + 6$ is:

- (A) Even and divisible by 8 (B) Odd and divisible by 2
(C) Even and divisible by 4 (D) Even and divisible by 6
(E) None of the above is correct





35 What is $33\frac{1}{3}\%$ of the smallest 4 digit number divisible by 3?

- (A) 334 (B) 330 (C) 339 (D) 335 (E) 337
-

36 In a shop, there are three blue jackets for every grey jacket, while the number of grey jackets is two thirds the number of black jackets. If there are 30 grey jackets, how many jackets are there all together in the shop? (all colours)

- (A) 125 (B) 145 (C) 155 (D) 165 (E) 175
-

37 The table below shows the time taken for a bus to travel from Rochester to Margate. Unfortunately the bus is delayed today and starts at Rochester 8 mins behind schedule. However, the bus travels at 1.5 times the usual speed. What will be the time when it reaches Margate?

	Bus Timetable
Rochester	13:15
Whitstable	14:12
Margate	14:45

- (A) 14:45 (B) 14:32 (C) 14:34 (D) 14:23 (E) 14:43
-

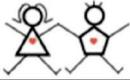
38 What is $(0.12)^2$ rounded to the nearest thousandth?

- (A) 0.144 (B) 0.015 (C) 0.014 (D) 1.440 (E) 0.150
-

39 How many handshakes are required between 5 people so that everyone shakes hand with each other only once?

- (A) 6 (B) 8 (C) 12 (D) 10 (E) 20



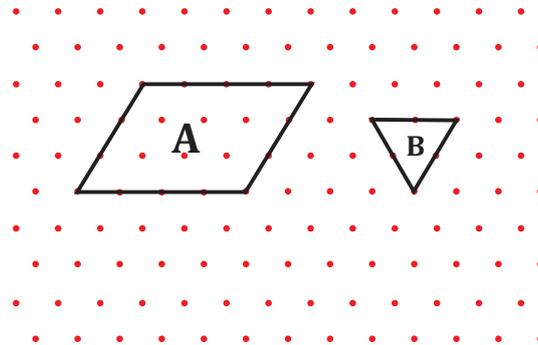


- 40 Three ropes are of length p , $2p + 4$, and $3p + 5$ respectively. I join them at the end and divide the resulting rope into 3 equal parts. What is the length of each part?
- (A) $2p + 1$ (B) $2p + 3$ (C) $p + 3$ (D) $2p + 9$ (E) $3p + 9$
-

- 41 The median of 5 numbers is 5, while their average is 7. Three of these numbers are 1, 3 and 8. What could be the other 2?
- (A) 5 and 12 (B) 18 and 9 (C) 5 and 16 (D) 5 and 20 (E) 5 and 18
-

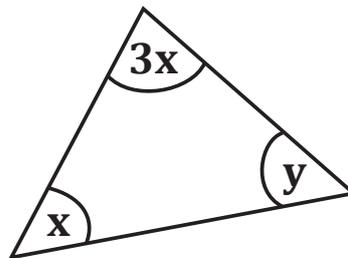
- 42 What is twenty seven thousand and thirty seven added to twenty seven hundredths?
- (A) 27370.27 (B) 2737.27 (C) 27307.27 (D) 27037.27 (E) 27730.27
-

- 43 What is the ratio of the areas of triangle B to parallelogram A?



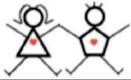
- (A) 3:24 (B) 6:1 (C) 1:6 (D) 1:4 (E) 24:3
-

- 44 The sum of angles x and y in the diagram below is 105° . What is the value of angle y ?



- (A) 25° (B) 80° (C) 75° (D) 65° (E) 55°





45 I buy 5 shirts for £12 each and 3 scarfs for £8 each. I sell all the shirts for 25% higher and the scarfs at 12.5% higher. How much extra money did I earn?

- (A) £12 (B) £14.50 (C) £16.50 (D) £17 (E) £18
-

46 If x is an integer and $x > -3$, then $5 - 3x$ is

- (A) Greater than 14 (B) Less than 14 (C) Equal to 14
(D) Greater than 11 (E) Less than 11
-

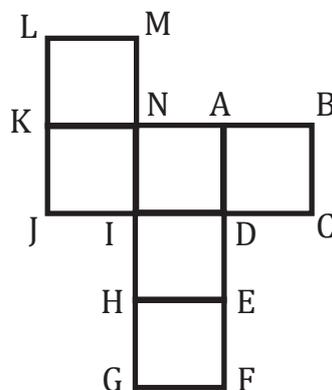
47 In a certain region, rain fall is expected once every 3 days. How many dry days would you expect over a 45 day period?

- (A) 15 (B) 25 (C) 30 (D) 35 (E) 45
-

48 If $\sqrt{49} < y < 8$, which statement is true about 'y'?

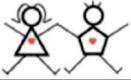
- (A) $Y = 7$ (B) $y = \sqrt{55}$ (C) $y = 8$ (D) y is odd (E) y is even
-

49 The net below is that of a cube. What edge joins with AB?



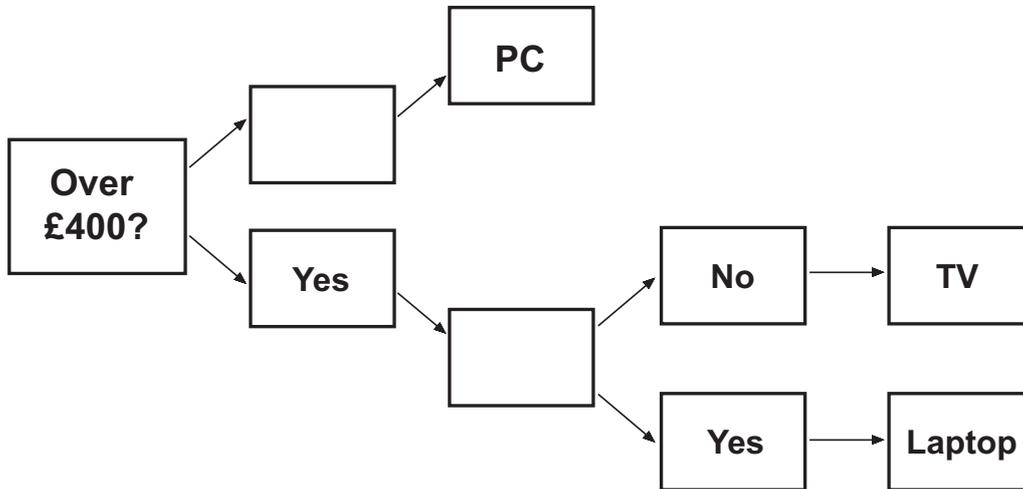
- (A) KJ (B) KL (C) LM (D) MN (E) KN





50

Alex wants to buy either a TV, a laptop or a pc. If the cost of the item is less than £400, he will buy the pc. Otherwise, he makes his decision depending on when the item was first manufactured. If it is over a year old, he will buy the TV - otherwise, the laptop. What should the 2 missing statements below be?



- (A) No and Less than 1 year old? (B) No and More than 1 year old?
(C) Yes and Less than 1 year old? (D) Yes and More than 1 year old?
(E) No and Less than £400?





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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