

Round 1

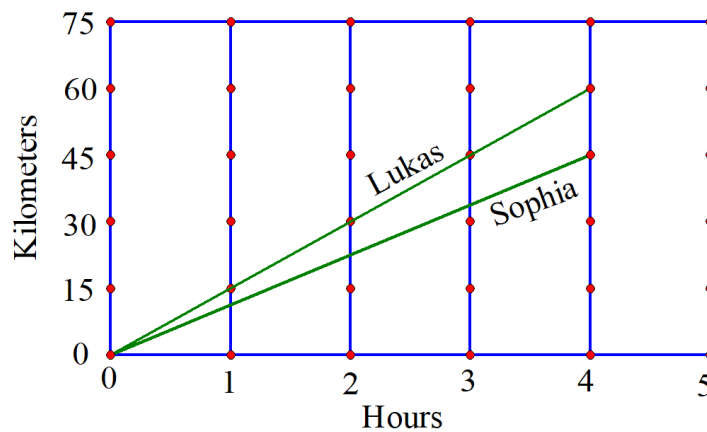
1 What is the degree measure of the smaller angle formed by the hands of a clock at 10 o'clock?

- a 30° b 45° c 60° d 75°

2 Which three numbers have a sum NOT equal to 2?

- a $\left(\frac{3}{4}, \frac{2}{3}, \frac{7}{12}\right)$ b $(4, -4, 2)$
c $(0.2, 0.6, 1.2)$ d $(2.2, -4.2, 2)$

3 The diagram shows distances traveled by bikers Lukas and Sophia. After four hours, about how many more kilometers has Lukas biked than Sophia?



- a 15 b 20 c 25 d 30

4 A rectangular garden 60 m long and 20 m wide is enclosed by a fence. To make the garden larger, while using the same fence, its shape is changed to a square. By how many square meters does this enlarge the garden?

- a 100 b 200 c 300 d 400

5 Bob, Ric, Kim, Tim, and Mo have different amounts of money. Neither Tim nor Bob has as much money as Kim. Both Bob and Ric have more than Mo. Tim has more than Mo, but less than Bob. Who has the least amount of money?

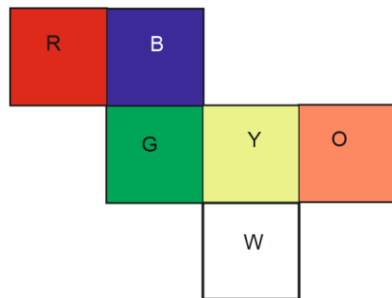
- a Bob b Mo c Tim d Ric

- 6 The third exit on a highway is located at kilometerpost 40 and the tenth exit is at kilometerpost 160. There is a gas station on the highway located three-fourths of the way from the third exit to the tenth exit. At what kilometerpost would you expect to find this gas station?

a 130 b 120 c 110 d 100

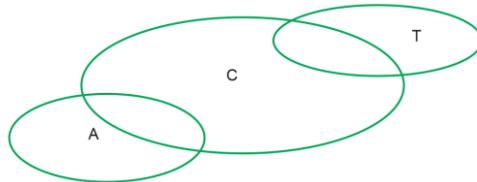
- 7 Six squared pieces of paper are coloured as shown (R = red, B = blue, O = orange, Y = yellow, G = green, and W = white). They are taped together and then folded to form a cube. The face opposite the blue face is

a R b G c W d O



- 8 A vegetable field is made of three gardens that overlap as shown. Garden C has 250 plants, garden T has 225 plants, and garden A has 175 plants. C and T share 25 plants, while C and A share 50. What is the total number of plants?

a 500 b 575 c 650 d 725



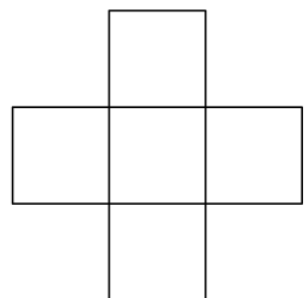
- 9 At a crossing in a certain town, a complete cycle of a traffic light takes 2 minutes. During each cycle the light is green for 50 seconds, yellow for 10 seconds, and red for 60 seconds. At a randomly chosen time, what is the chance that the light will NOT be green?



a $\frac{1}{4}$ b $\frac{1}{3}$ c $\frac{7}{12}$ d $\frac{5}{12}$

- 10 Each of the five numbers 2, 8, 14, 20, and 26 is placed in one of the five squares so that the sum of the three numbers in the horizontal row equals the sum of the three numbers in the vertical column. The **largest** possible value for the horizontal or vertical sum is

a 40 b 42
c 44 d 48



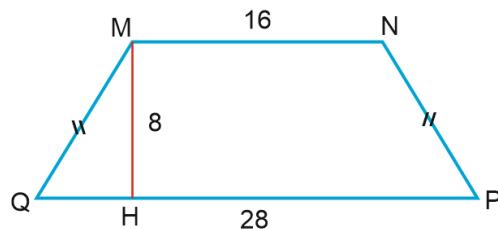
- 11 The ratio of the number of games won to the number of games lost (no ties in chess) by the Middle School chess team is 11 to 7. To the nearest whole percent, what percent of its games did the team lose?

a 39% b 42% c 58% d 64%

- 12 A school holds a summer camp for students every year. Last year, there were 20 girls, 15 boys, and 5 adults. The average age of the 40 members was 17 years. If the average age of the girls was 15 and the average age of the boys was 16, what was the average age of the adults?

a 27 b 28 c 29 d 30

- 13 MNPQ is a trapezium with sides MQ and NP of equal length. The height MH is 8 cm and the bases MN and PQ have the measures as shown. Find the perimeter of this trapezium.

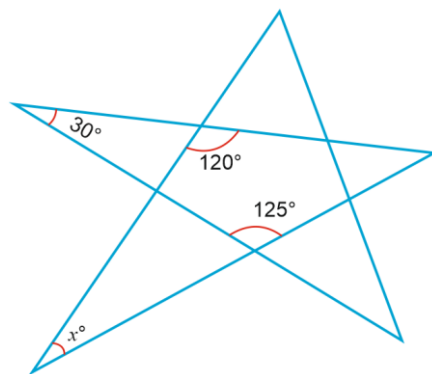


a 54 b 60 c 64 d 68

- 14 Jim's mathematics test had 75 short questions: 10 algebra, 30 geometry, and 35 arithmetic problems. Although she answered 70% of the algebra, 40% of the geometry, and 60% of the arithmetic problems correctly, he did not pass the test because she got less than 60% of the questions right. How many more questions would he have needed to answer correctly to earn a 60% passing grade?

a 5 b 7 c 9 d 11

- 15 Find x .

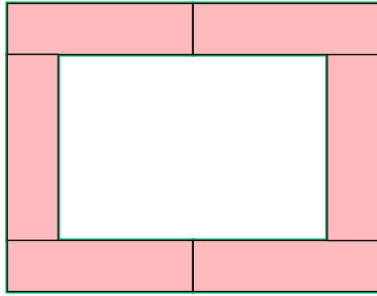


a 25 b 30 c 35 d 40

- 16 In a farmers' market, no money is used, people can only exchange products. Three fish can be traded for two loaves of bread and one loaf of bread can be traded for four kilograms of rice. How many kilograms of rice is one fish worth?

a $\frac{3}{8}$ b $\frac{1}{2}$ c $\frac{3}{4}$ d $2\frac{2}{3}$

- 17 Six identical rectangles, of width x cm and length y cm are joined to make this shape.



If the total shaded region and the white rectangle in the middle have the same area, what is the ratio of x to y ?

a 1:3 b 2:3 c 1:6 d 1:4

- 18 When 2022^{2023} is divided by 5, the remainder is

a 1 b 2 c 3 d 4

- 19 A woodworker builds table that costs 200 euros to make. She increases the price by 75% when she is ready to sell it in her store. A month later, she puts the table on sale for 20% off the selling price. Two weeks later, she further reduces the sale price by an additional 20%. Finally, a customer buys the table.

How much profit (in euros) does she make?

a None, she loses money b 20
c 24 d 70

- 20 For a theater performance, a group of chairs were arranged in a circle and labelled with consecutive integer numbers starting with the number 1. How many chairs are in the circle if the chair labelled with a 12 is furthest away from the chair labelled with an 80?

a 132 b 134 c 136 d 140