

1. What is the sum of the quotient and the remainder when you divide 2012 by $(20 + 12)$?

_____ 1

2. The 4×4 multiplication table of some integers between 1 and 10 is partially filled in. What is the value of $J + K + L + M + N$?

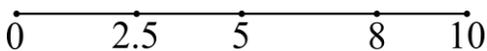
•				7
	J	K	L	56
	M	36	8	N
	T	27	6	P
6	18	R	S	42

_____ 2

3. The combined weight of 2 identical dice, 5 identical balls and 4 identical marbles is 260 grams. The combined weight of one die and one marble is 55 grams, and 3 balls weigh the same as two dice. What is the total weight (in grams) of one die, one ball, and one marble?

_____ (g) 3

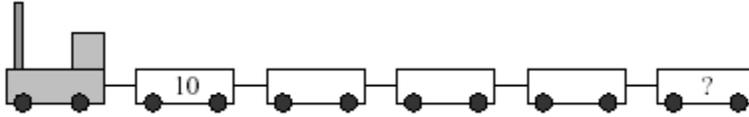
4. Thelma and Louise have a 10 km jogging race. Both start at the same time, Thelma at speed V_{T1} and Louise at speed V_{L1} ($V_{L1} > V_{T1}$). When Thelma is 2.5 km into the race she increases her speed by 50% to V_{T2} for the balance of the race and exactly at the 5 km mark she passes Louise. When Louise is 8 km into the race she increases her speed to V_{L2} . Both Thelma and Louise finish the race at the same time, 90 minutes after they started the race. What is V_{L2} (in km/h)?



_____ (km/h) 4

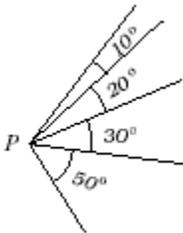
Grade Five (5) Division

5. The locomotive has just enough fuel to pull cars whose combined weight is two and a half times its own weight. The first 4 cars have weight of 10 tons each and the locomotive's weight is 30 tons. What is the maximum possible weight of the last car (in tons)?



_____ (tons) 5

6. How many different measures of angles smaller than 180° can be formed at P using any 2 rays of the 5 rays in the figure below?



_____ 6

7. The volume of a closed jewelry box is 140 cm^3 . Two of the sides are 7 cm and 5 cm . What is the surface area of the box (in cm^2)?

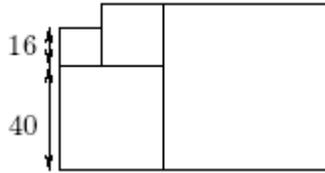
_____ (cm^2) 7

8. You throw 3 dice and note that the sum of all 3 dice is 16. What is the probability that none of the three dice shows the number 5?

_____ 8

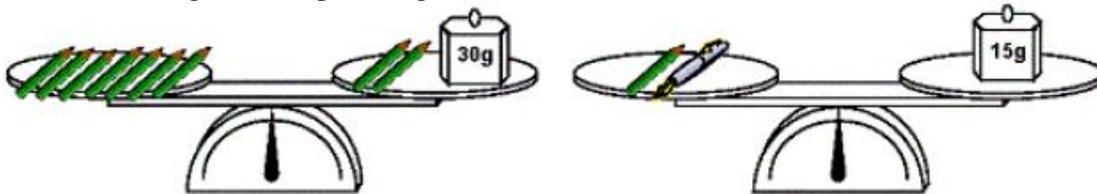
Grade Five (5) Division

9. Four squares are shown in the figure below. What is the area of the largest square?



_____ 9

10. Ten identical pencils, one pen, and two weights are placed on the scales as in the figure below. Both scales balance. What is the weight of the pen (in g)?

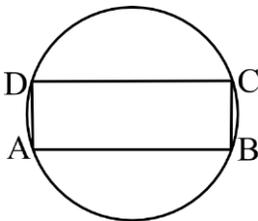


_____ (g) 10

11. You have a total of 9 coins: three 1c coins, two 5c coins, two 10c coins, and two 25c coins. How many different positive sums of money can you make using one or more of these coins?

_____ 11

12. In the figure below, ABCD is a rectangle inscribed in a circle with radius 10 units. The area of the rectangle is 138 square units. What is the perimeter of the rectangle?



_____ 12