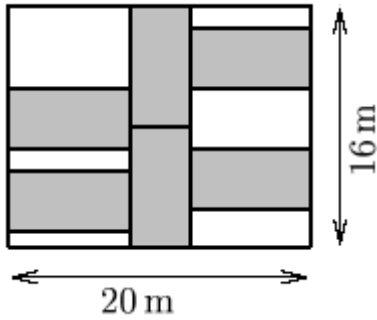


1. The sides of the large rectangle are 20m and 16m.
 All 6 shaded rectangles have the same shape and area (in square metres).
 What is the total area, in square metres, of all the shaded regions?



_____ (m) 1

2. In a contest to guess the number of coins in a jar,
 Amy guessed 43, Ben guessed 51, and Carl guessed 61.
 Nobody was correct. One person guessed four too many
 and one person guessed six too few.
 How many coins were there in the jar?

_____ 2

3. A shop sells vegetarian samosas at 3 for a dollar, and chicken
 samosas at 5 for two dollars. Alan spent \$48, half the money
 on vegetarian samosas, and half on chicken samosas.
 Altogether, how many samosas did Alan buy?

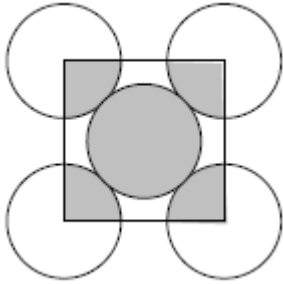
_____ 3

4. The following multiplication uses all of the digits 0 to 9,
 once each. What is the value of E ?
 $A2B \times C3 = 5DE01$.

_____ 4

Grade Five (5) Division

5. All 5 circles have the same radius.
The combined area of the shaded regions is 128π .
What is the area of the square?

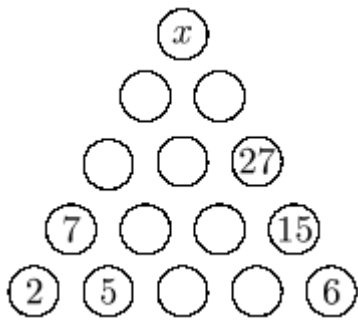


_____ 5

6. How many positive factors does 100 have?
Note: 1 and 100 are factors of 100.

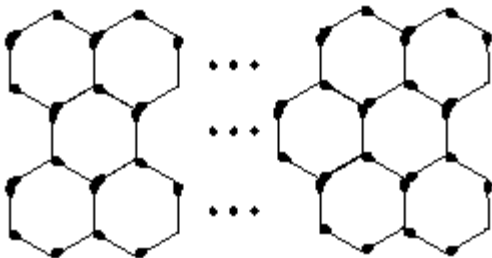
_____ 6

7. The number in each circle is the sum of the numbers in the two circles immediately below the circle. What is the value of x ?



_____ 7

8. The pattern consists of three rows of hexagons where the top and the bottom rows both have 20 hexagons and the middle row has 19 hexagons. A single match is used to construct a side of each of the hexagons, and if two hexagons share a side, then a single match is used for that shared side. How many matches were used in total?



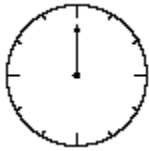
_____ 8

Grade Five (5) Division

9. What is the largest whole number N such that $N^3 < 2011$?

_____ 9

10. How many times during the 12 hour period from 1:00 AM to 1:00 PM does the minute hand of a clock cover the hour hand exactly?
Note: 12:00 is one such time as shown.

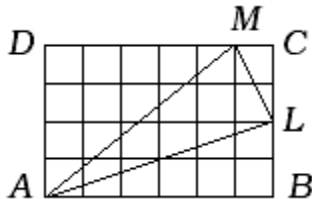


_____ 10

11. The digit sum of 32 is a multiple of 5 and so is the digit sum of 46.
How many numbers between 10 and 60 have digit sum a multiple of 5?

_____ 11

12. $ABCD$ is a rectangle and each of the small squares has side 1.
What is the area of triangle ALM ?



_____ 12