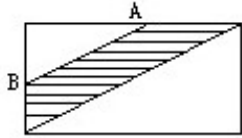


1. A and B are the midpoints of two adjacent sides in the rectangle below. What fraction (in lowest terms) of the rectangle is shaded?

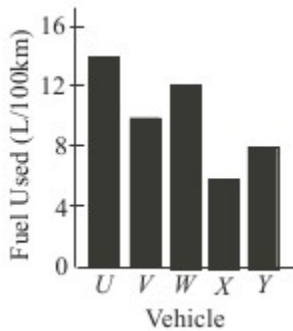


_____ 1

2. What is the positive difference between the mean and the median of the set of numbers below?
 $\{-10, -4, -2, 0, 2, 4, 150\}$

_____ 2

3. In the diagram below, the fuel consumption of five cars are 14, 10, 12, 6, and 8 Litres/100km as shown. What is the average consumption (of fuel per car) of the five cars in L/km? Provide your answer as a common fraction in lowest terms.



_____ (L/km) 3

4. Consider the following sequence: 1 (sum of the factors of 1), 3 (sum of the factors of 2), 4 (sum of the factors of 3), 7 (sum of the factors of 4), 6 (sum of the factors of 5), ... What is the sum of all the terms that each has value less than 15?

_____ 4

Grade Five (5) Division

5. $N > 200$ is a perfect square.

What is the smallest possible value of N ?

_____ 5

6. 100 hungry students eat together 225 pizza slices.

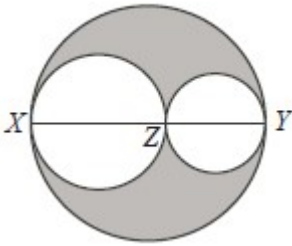
N of them ate one slice, $N + 30$ ate two slices,
and the rest ate three slices.

What is the value of N ?

_____ 6

7. $XZ = 3$, $YZ = 2$, and $XY = 5$ are all diameters
of the 3 circles in the figure below.

What percentage of the large circle is shaded?



_____ (%) 7

8. A , B , C , D , and E are different even numbers between 1 and 11.

Find the smallest possible positive integer value of $\frac{(A+B)(C-D)}{E}$.

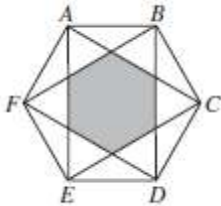
_____ 8

Grade Five (5) Division

9. Leonard's clock runs 3 minutes faster every day.
If he wants to have the correct time at exactly 8:00 AM tomorrow,
how many minutes should he set his clock back today at 4:00 PM? _____ (m) 9

10. A group of 5 students won a prize: Alfie got \$300,
Betti got $\frac{1}{3}$ of the total prize, Charlie got 50% of what Betti got,
Dalton got twice as much as Alfie, and Erin got $\frac{5}{12}$ of the prize.
How many dollars was the prize? _____ (\$) 10

11. The shaded region is a regular hexagon enclosed
inside another regular hexagon $ABCDEF$.
The perimeter of the shaded area is 12.
What is the value of AF ?
Express your answer as $m\sqrt{n}$ where m and n are primes.



_____ 11

12. How many positive whole numbers less than 2016 have digit sum of 7? _____ 12