1. The sum of five consecutive integers is 65. What is the largest of these five integers?

(A) 13 (B) 14 (C) 15 (D) 16 (E) 17

2. Half of x is one less than twice x. Find x.

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

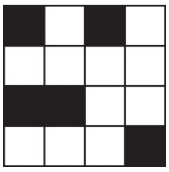
3. Albert has a washer that takes 45 minutes to wash a load of laundry and a dryer that takes 55 minutes to dry a washed load of laundry. The washer and dryer can run at the same time. Not including any time it takes to load the washer and dryer, how many minutes will it take for Albert to wash and dry four loads of laundry?

(A) 265 (B) 275 (C) 300 (D) 345 (E) 400

4. Of the 15,000 registered drivers in Alpine, $\frac{1}{2}$ own a car, $\frac{1}{3}$ own a truck, and $\frac{1}{4}$ do not own a car or a truck. How many of the registered drivers in Alpine have both a car and a truck?

(A) 0 (B) 250 (C) 750 (D) 1,250 (E) 2,500

5. What is the smallest number of squares that must be colored black to give the diagram below a single line of reflectional symmetry?

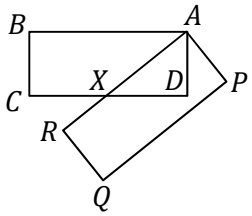


(A) 1 (B) 2 (C) 3 (D) 4 (E) 5

6. The mean of n, $2n$, and $2n + 1$ is 9. Find n.

(A) 5 (B) $5\frac{1}{5}$ (C) $5\frac{1}{4}$ (D) $5\frac{3}{5}$ (E) 6

7. In the diagram below, rectangles $ABCD$ and $APQR$ are congruent. Point X is the midpoint of CD. If the area of triangle $ADX = 20$ cm^2, what is the area of hexagon $APQRXD$?



(A) 40 cm^2 (B) 50 cm^2 (C) 56 cm^2 (D) 60 cm^2 (E) 80 cm^2

8. Regular hexagon $ABCDEF$ has sides of length 4. What is the area of rectangle $BCEF$?

(A) $8\sqrt{3}$ (B) 16 (C) $16\sqrt{3}$ (D) 36 (E) $24\sqrt{3}$

9. At Vinny's Pizza, you can order a medium pizza with any combination of the 8 available toppings (including a pizza with no toppings at all). How many different medium pizzas can be ordered from Vinny's?

(A) 8 (B) 9 (C) 36 (D) 64 (E) 256

10. In a set of 15 integers, the sum of the ten largest integers is 200, and the sum of the ten smallest integers is 80. What is the largest possible sum of all 15 numbers?

(A) 210 (B) 225 (C) 240 (D) 255 (E) 270

11. How many positive integers less than 2012 have exactly 15 positive divisors?

(A) 0 (B) 1 (C) 3 (D) 4 (E) 5

12. What is the sum of all the positive three-digit integers that use only the digits 1, 2, and 3? The numbers 121, 123, and 333 are three such integers.

(A) 666 (B) 1,998 (C) 3,996 (D) 5,994 (E) 17,982

13. In the Fibonacci sequence, each term is the sum of the two terms before it. What is the probability that a randomly selected number from the Fibonacci sequence is a multiple of 3, but not a multiple of 5?

1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, 233, 377…

(A) 1/3 (B) 1/4 (C) 1/5 (D) 1/6 (E) 1/7

14. Three pipes are used to fill a pool. If only pipe A is used, it will take 24 hours to fill the pool. If pipes A and B are both used, it will take 16 hours to fill the pool. If pipes A, B, and C are all used, it will take 8 hours to fill the pool. At 6 a.m., Melissa turns on pipe C. Then, at noon, she turns on pipes A and B (leaving all three pipes running). At what time will the pool be full?

(A) 5 p.m. (B) 6 p.m. (C) 7 p.m. (D) 8 p.m. (E) 9 p.m.

15. If $a + b = 9$ and $a^2 + b^2 = 51$, what is the value of $\frac{1}{a} + \frac{1}{b}$?

(A) 2/3 (B) 3/5 (C) 9/16 (D) 1/2 (E) 2/5

1. C
2. C
3. A
4. D
5. A
6. B
7. D
8. C
9. E
10. C
11. E
12. D
13. C
14. A
15. B