
Part A

1. How many seconds are there in sixty-two minutes?

- (A) 62 (B) 3602 (C) 3620 (D) 3680 (E) 3720
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2. The value of $\frac{1}{2} - \frac{3}{4} + \frac{5}{8}$ is

- (A) $\frac{1}{8}$ (B) $\frac{1}{4}$ (C) $\frac{3}{8}$ (D) $\frac{1}{2}$ (E) $\frac{5}{8}$
-

3. If $3x - 6 = 33$ then the value of x is

- (A) 7 (B) 11 (C) 13 (D) 15 (E) 17
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4. To make cookies, Sylvie uses $\frac{2}{3}$ cups of chocolate chips for each cup of flour. One day she makes a lot of cookies. She uses $4\frac{1}{2}$ cups of flour. How many cups of chocolate chips did she use?

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

5. One notebook and one pen cost \$2.50 while two notebooks and three pens cost \$6. What is the price of one pen?

- (A) \$0.50 (B) \$0.75 (C) \$1 (D) \$1.25 (E) \$1.50
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6. The average of two numbers is 7. When a third number is included the average becomes 6. What is the value of this third number?

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

7. A 10 m by 15 m house is built on a 20 m by 40 m piece of land. The remainder of the land consists of a driveway and lawn. If lawn occupies 80% of the remainder of the land, then the area of the lawn, is

- (A) 130 m^2 (B) 280 m^2 (C) 520 m^2 (D) 650 m^2 (E) 800 m^2

8. Today, May 10th, Tim, Colin and Barry met at the shopping mall. Tim goes to the shopping mall every two days, Colin goes to the shopping mall every three days and Barry goes to the shopping mall every five days. On which date will they next meet at the shopping mall?

- (A) May 30th (B) June 3rd (C) June 8th (D) June 9th (E) June 10th

9. Jacques likes to buy books from used book stores. During his vacation, he visited five used book stores. At each store, after the first, he bought two more books than he had bought at the previous store. When he returned home, he counted and found that he had bought 50 books. How many books did Jacques buy from the fifth book store he visited?

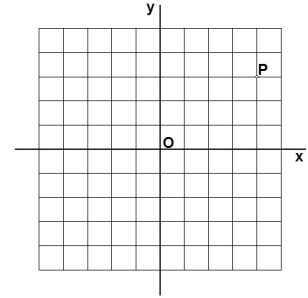
- (A) 9 (B) 11 (C) 12 (D) 13 (E) 14

10. Michel wants to sell his house for \$150 000. After two months, the house is not sold so he reduces the price by 20 %. John likes the house and says: “if you reduce your new price by 10 %, I will buy the house”. Michel agrees. What price does John pay for the house?

- (A) \$105 000 (B) \$108 000 (C) \$110 000 (D) \$112 000 (E) \$115 000
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Part B

11. The surface of a cube is 24 cm^2 . What is the volume of this cube?
- (A) 2 cm^3 (B) 4 cm^3 (C) 6 cm^3 (D) 8 cm^3 (E) 12 cm^3
-
12. In my town there are 1800 houses. One third of the houses have birds while one quarter of the houses have dogs. One half of the houses that have dogs also have birds. How many houses have birds but no dog?
- (A) 225 (B) 300 (C) 375 (D) 450 (E) 600
-
13. If 333 cats eat 666 mice in three days, how many mice will be eaten by 111 cats in a week?
- (A) 222 (B) 444 (C) 518 (D) 555 (E) 592
-
14. How many even numbers between 1 and 100 are not divisible by 5?
- (A) 40 (B) 41 (C) 42 (D) 43 (E) 44
-
15. Peter is picking raspberries at Daryl's farm. He is paid \$50 a day. If he picks more than 40 boxes a day, Peter is paid a bonus of an additional \$1.15 for each box beyond 40 boxes. One day Peter was paid \$68.40. How many boxes of raspberries did Peter pick that day?
- (A) 53 (B) 54 (C) 55 (D) 56 (E) 57
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16. On the coordinate system, P has coordinates (4, 3). A new point Q is found by rotating P counterclockwise 90° about the origin O. What are the coordinates of the new point Q?

(A) (-4, 3) (B) (-3, 4) (C) (3, -4) (D) (3, 4) (E) (4, -3)

17. How many integers n (including negative integers) are such that $\frac{15 - n}{3 - n}$ is an integer?

(A) 9 (B) 10 (C) 11 (D) 12 (E) 13

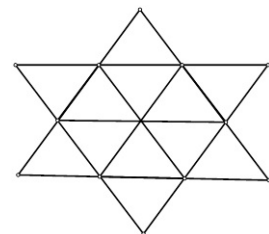
18. If $a \times b = n$, then a and b are said to be factors of n . The positive factors of 6 are 1, 2, 3 and 6. What is the product of all the positive factors of 100?

(A) 10^5 (B) 10^6 (C) 10^7 (D) 10^8 (E) 10^9

19. The digits 4, 7, 2 and 5 can be arranged to make many different four digits numbers. What is the sum of the largest and the smallest of these numbers?

(A) 9898 (B) 9999 (C) 10028 (D) 10102 (E) 10409

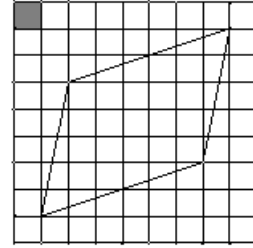
20. How many triangles are there in the figure shown?



(A) 12 (B) 20 (C) 22 (D) 24 (E) 25

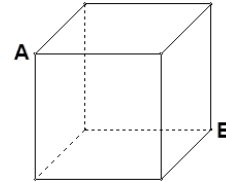
Part C

21. A 1 by 1 square is shaded in the grid shown. What is the area of the parallelogram?



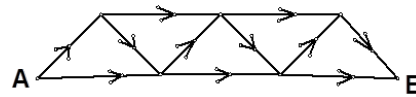
- (A) 22 (B) 24 (C) 26 (D) 28 (E) 30

22. In the shown cube, A and B are on opposite corners and each side of the cube has length one. An ant walks from A to B along the edges of the cube. What is the length of the longest path the ant can walk, without using any edge more than once nor passing twice through the same corner?



- (A) 6 (B) 7 (C) 8 (D) 9 (E) 10

23. In the shown diagram, how many paths are there from A to B, if you must always move in the direction of the arrows?



- (A) 9 (B) 10 (C) 11 (D) 12 (E) 13

24. One day, Paul swam one kilometer at 5 km/h, then bicycled one kilometer at 25 km/h, then ran one kilometer at 10 km/h. To the nearest km/h, what was his average speed over the three kilometers?

- (A) 7 (B) 9 (C) 11 (D) 13 (E) 20

25. Nabil is in room 1401. He calls Martin and says “what room are you in?” Martin replies: “the number of the room I’m in less the number of the room you’re in is 100 times the n^{th} prime number, where n is the smallest number with six positive factors”. What room is Martin in? (If $n = a \times b$, then a and b are said to be factors of n . The positive factors of 6 are 1, 2, 3, 6).

(A) 2701 (B) 3301 (C) 4501 (D) 5101 (E) 5501

26. A magic square is a square of numbers in which the sum of the numbers in each row, in each column and in each diagonal is always the same. Hichem wants to fill a magic square using the numbers 1 to 16 once each. He has filled some of the boxes as shown in the diagram. Which number must he put in the shaded box?

14	1		
11			2
	10	3	

(A) 4 (B) 5 (C) 6 (D) 7 (E) 8