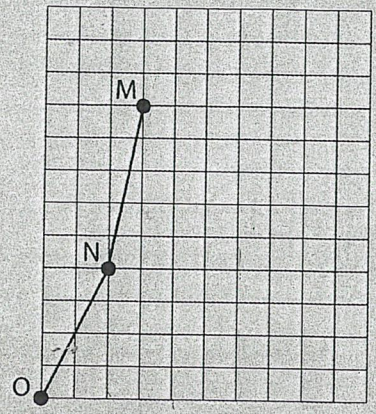


32. Mathilda has drawn a grid on the sidewalk. Each point in the grid is represented by coordinates. She is playing a mathematical game with Mathew. Each player starts from a point and moves in a straight line to a second point, then to a third point, and so on. The moves are not made at random, but are determined by a mathematical rule. The object of the game is to find the rule. It is Mathilda's turn to move on the grid. She starts at point O (0, 0), moves on to point N (2, 4), and then to point M (3, 9). Given Mathilda's rule, what could be the coordinates of the next point to which she will move?



- A) (6, 6)
- B) (12, 4)
- C) (6, 3)
- D) (4, 16)
- E) (3, 6)

33. A pile of 1 000 identical sheets of paper is 30 cm high. What is the thickness of one sheet of the same paper?

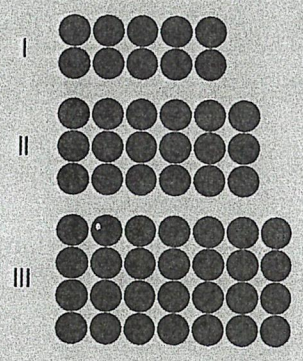
- A) 0.3 cm
- B) 30 mm
- C) 0.03 cm
- D) 0.3 dm
- E) 300 mm

34. Doubling a natural number yields the same result as adding 6 to it. What is this natural number?

- A) 5
- B) 6
- C) 8
- D) 4
- E) 9

35. I have \$120. If I increase this amount by 50% and then increase this new amount by another 50%, how much will I have after the second increase?

- A) \$280
- B) \$270
- C) \$275
- D) \$370
- E) \$240

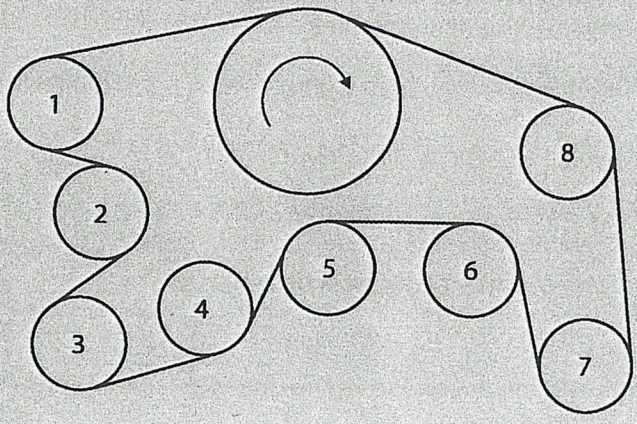


36. Using tokens, Mathew has formed a sequence of 3 patterns (I, II, and III). If he continues using the same logic, how many tokens will he need to form pattern IV?

- A) 42
- B) 36
- C) 32
- D) 40
- E) 45

37. If N is a natural number and N + 3 is an odd number, which of the following is also an odd number?

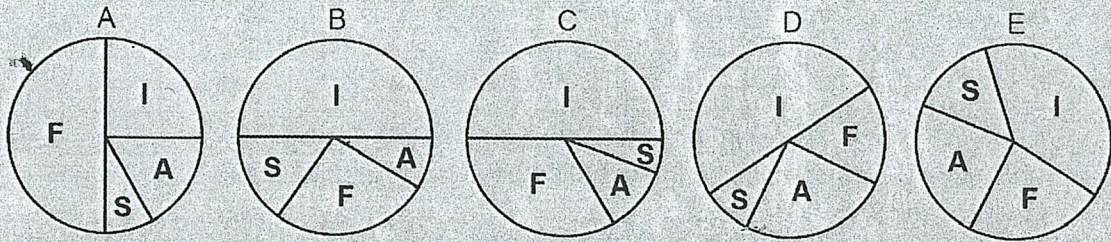
- A) $3 \times N + 1$
- B) $3 \times N$
- C) $2 \times N$
- D) $N + 6$
- E) $2 \times N + 4$



38. The big wheel turns in a clockwise direction and can transfer its energy to the other wheels by means of a belt. Which wheels turn in a counter-clockwise direction?

- A) 2 - 5 - 6
- B) 4 - 7 - 8
- C) 1 - 3 - 4 - 8
- D) 1 - 7 - 4
- E) 4 - 5

39. Melissa went to Europe with her parents. She spent 360\$ in the four countries she visited. She spent 180\$ in Italy, 120\$ in France, 40\$ in Austria, and 20\$ in Switzerland. Which of the following circle (pie) graphs best represents what she spent in the four countries?



40. The average of three different odd numbers M, N, and P is 7. If M is larger than N and P, what is the greatest possible value of M?

- A) 15 B) 11 C) 19
 D) 13 E) 17

41. Letters M, N, and B represent 3 different digits. What is the value of letter M?

- A) 5 B) 6 C) 7
 D) 8 E) 9

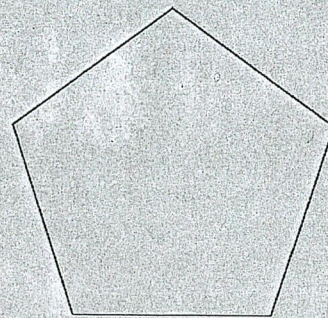
$$\begin{array}{r} M7B \\ + 1NB N \\ \hline NN60 \end{array}$$

42. Which number is not the sum of two different prime numbers?

- A) 6 B) 8 C) 12
 D) 24 E) 9

43. How many diagonals can you draw in the polygon shown in the diagram?

- A) 2 B) 3 C) 4
 D) 5 E) 6



44. The number 72 is the product of two consecutive natural numbers (8 x 9). What is the largest number between 0 and 10 000 that is also the product of two consecutive natural numbers?

- A) 9 989 B) 9 900 C) 9 991 D) 9 992 E) 9 993

45. Which fraction is larger than 1/2?

- A) 20/40 B) 25/52 C) 51/100 D) 48/97 E) 30/60

46. Which of the following is divisible by 3?

- A) 10 283 B) 998 C) 521 D) 1 791 E) 1 222

47. $3^2 + 4^2 = ?$

- A) 7^2 B) 5^2 C) 6^2 D) 4^2 E) 8^2

48. February 28, 2018 was a Wednesday. February 28, 2019 will be a
- A) Tuesday B) Wednesday C) Thursday D) Friday E) Saturday
49. The average of all the natural numbers from 1 to 99 is
- A) 52 B) 48 C) 49 D) 51 E) 50
50. Fifty people ate breakfast. Thirty had croissants and 40 had orange juice. If each person ate at least one of the two items on the menu (juice and croissants), how many people had both items?
- A) 20 B) 25 C) 10 D) 30 E) 15

