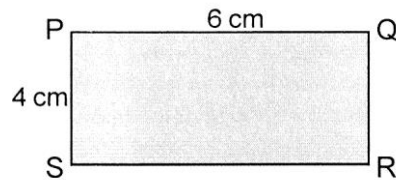


Section A (5 Marks)

- 1) The value of the fraction $\frac{1}{2}$ is closest to
(A) 0.45 (B) 0.6 (C) $\frac{1}{3}$ (D) $\frac{5}{8}$ (E) $\frac{2}{5}$
- 2) A car is travelling at 60 km per hour. How many metres does it cover in 12 seconds?
(A) 200 (B) 240 (C) 500 (D) 600 (E) 720
- 3) A box is 70 cm long, 50 cm wide and 30 cm high.
What is its capacity in litres?
(A) 10.5 (B) 105 (C) 1050 (D) 10050 (E) 10500
- 4) In a shop there are 7 bicycles and tricycles. They have a total of 19 wheels.
How many bicycles are there?
(A) 2 (B) 3 (C) 4 (D) 5 (E) 7
- 5) On a scales 4 books are balanced by 2 of the same books plus 6 kg.
What is the mass of one book (in kg)?
(A) 1.5 (B) 2 (C) 2.5 (D) 3 (E) 6
- 6) You want to enlarge the rectangle in the figure so that the side PS is 6 cm long.
How long will the side PQ be in the enlargement? Answer in cms.

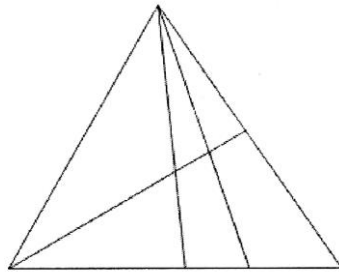


- (A) 7 (B) 8 (C) 9 (D) 10 (E) 12

- 7) John takes 2 tablets every day. If he increases his dose to 3 tablets a day, a full bottle would last 8 days less.

How many tablets are in a full packet?

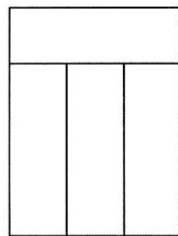
- (A) 8 (B) 12 (C) 16 (D) 24 (E) 48
- 8) The sum of two numbers is multiplied by 3 and 7 is added. The result is 73.
- What is the average of the two numbers?
- (A) 5 (B) 10 (C) 11 (D) 12 (E) 22
- 9) Which number represents one hundred million?
- (A) 100000 (B) 1000000 (C) 10000000 (D) 100000000 (E) 100000000000
- 10) How many different triangles of all sizes are in this figure?



- (A) 11 (B) 12 (C) 13 (D) 14 (E) 15

Section B (6 Marks)

- 11) In the figure below, there are four equal rectangles. The longer side of each rectangle is 9 cm long. What is the perimeter of the figure, in cms?



- (A) 36 (B) 42 (C) 45 (D) 48 (E) 54

- 12) One day John and Sheila plant 88 cabbage plants in their garden. For the first hour, they work together and plant 42 cabbages. For the next two hours, Sheila works on her own at the same pace and finishes planting the cabbage plants.

How many cabbages did John plant?

- (A) 15 (B) 17 (C) 19 (D) 21 (E) 23
- 13) a , b , c and d are four numbers. The average of a and b is 10. The average of b , c and d is 20 and the average of all four numbers is 19.

What is the value of a ?

- (A) 4 (B) 5 (C) $\frac{20}{3}$ (D) $\frac{70}{6}$ (E) 16
- 14) Joe travels to school in two different ways. Either he walks to school and takes the bus home, or he takes the bus to school and walks home. In each case the total travelling time is 40 minutes. If he were to take the bus both ways, his total travelling time would be 20 minutes. How many minutes would it take if he walked both ways?

- (A) 30 (B) 40 (C) 50 (D) 60 (E) 80
- 15) In a classroom, the desks are arranged in a grid. Each row has the same number of desks. Sam's desk is third from the front, second from the back and has one desk to the left and four to the right. How many desks are in the classroom?

- (A) 20 (B) 24 (C) 25 (D) 28 (E) 30

- 16) If a , b and c are consecutive whole numbers with $a < b < c$, then the product $(a - b)(a - c)(b - c)$ is equal to

(A) -2 (B) -1 (C) 0 (D) 1 (E) 2

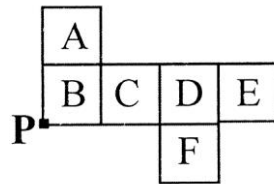
- 17) If you continue the pattern

201520152015.....

what would be the 2015th digit?

(A) 0 (B) 1 (C) 2 (D) 5 (E) 2015

- 18) The net shown is folded to form a cube. Which three faces meet at P?



(A) BEF (B) ABC (C) BDF (D) ABE (E) ABF

- 19) Four positive whole numbers, when added three at a time, give the sum 180, 197, 208 and 222. What is the sum of the largest and smallest number?

(A) 89 (B) 119 (C) 133 (D) 136 (E) 150

- 20) Paddy divided his marbles into two piles. The two piles had an equal number of marbles. He gave his brother one half of one-third of one pile. Paddy had 66 marbles left.

How many marbles did Paddy give to his brother?

(A) 3 (B) 6 (C) 11 (D) 22 (E) 24

Section C (8 Marks)

- 21) In a warehouse boxes are stacked. The stack is 6 metres high, 10 metres wide and 8 metres long. A rectangular sheet is needed to cover the boxes.

What size sheet would cover the boxes exactly?

- (A) 14m x 16 m (B) 20m x 20 m (C) 22m x 22m (D) 24m x 24m
(E) 20m x 22m

- 22) A plot rectangular of land is 4 metres long and 6 metres wide. It is divided into lots 1 meter long and 1 meter wide by fences parallel to the edges of the plot, with fences along the edges as well.

What is the total number of fences required?

- (A) 58 (B) 62 (C) 68 (D) 72 (E) 96

- 23) a , b and c are numbers.

When $\frac{a}{b} = 12$ and $\frac{b}{c} = 20$ what is the numerical value of $\frac{a}{b+c}$?

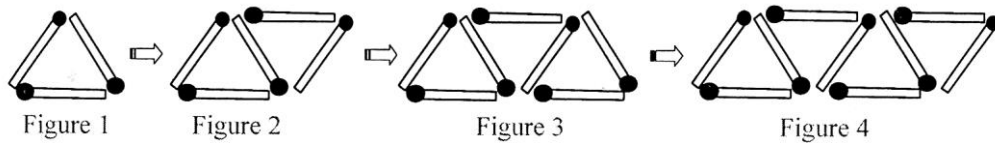
- (A) 32 (B) $\frac{32}{3}$ (C) $\frac{80}{7}$ (D) $\frac{1}{35}$ (E) 1

- 24) Jim noted that school fees increased by 10% in 2013 and by 20% in 2014 .

What was the percentage increase in school fees over the two year period?

- (A) 15 (B) 25 (C) 30 (D) 32 (E) 34

- 25) The figures below are built with matches.



How many matches are needed to build the 30th figure in this sequence?

- (A) 31 (B) 59 (C) 60 (D) 61 (E) 63

I.M.T.A. (Cork Branch)



Comórtas Sóisearach Matamaitice Éireann

(Irish Junior Mathematics Competition) 2015

ANSWER KEY (Final)

SECTION A

1. A

2 A

3. B

4. A

5 D

6 C

7. E

8 C

9. D

10 E

SECTION B

11. B

12 C

13. E

14. D

15. B

16. A

17. B

18. A

19. D

20. B

SECTION C

21. E

22. A

23. C

24. D

25. D