

Mathematics

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(Chapter - 11) (Algebra) (Practice Test 3)

(Class VI)

Time: 1 Hour

M. M: 18

General Instructions:

- This question paper contains four sections: A, B, C and D. Each part is compulsory.
- Section A has 5 MCQ of one mark each.
- Section B has 2 questions of two marks each.
- Section C has 3 questions of three marks each.
- There is no negative marking.

Section - A

- How many factors are $25 \times 36 \times 52$ are perfect squares
(A) 24 (B) 12 (C) 36 (D) 0
- A student is to answer 10 out of 13 questions in an examination such that he must choose at least 4 from the first five questions. The number of choices available to him is?
(A) 40 (B) 196 (C) 280 (D) 346
- How many ways are there to arrange the letters in the word GARDEN with the vowels in alphabetical order?
(A) 280 (B) 360 (C) 260 (D) 240
- Let T_n denote the number of triangles which can be formed using the vertices of a regular polygon on n sides. If $T_{n+1} - T_n = 21$, then n equals
(A) 5 (B) 2 (C) 7 (D) 3
- Four dice are rolled. The number of possible outcomes in which at least one dice shows 2 is
(A) 585 (B) 671 (C) 625 (D) 1280

Section - B

- A bird flies 1 kilometer in one minute. Can you express the distance covered by the bird in terms of its flying time in minutes? (Use t for flying time in minutes)
- Simplify: $3(x + c) - 2(2c - x) + 4x - 7$

Section - C

- Simplify: $3(a + b) - 2(2a - b) + 4a - 7$
- The sides of a triangle are in the ratio 3:2:4. If the perimeter of the triangle is 27cm, find the length of each side.
- What are the greatest and smallest possible numbers which can be formed using the digits 9, 8, 7 and 4 without repetition and with 7 always at the ones place?

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Answers

Section - A

1. 24
2. 196
3. 360
4. 7
5. 671

Section - B

6. t km

(Hint: Distance of time covered = speed x time)

Total distance = $1 \times t = t$ km)

7. $9x - c - 7$

Section-C

8. $3a + 5b - 7$

(Hint: $3(a + b) - 2(2a - b) + 4a - 7$)

$$= 3a + 3b - 4a + 2b + 4a - 7$$

$$= (3a - 4a + 4a) + (2b + 3b) - 7$$

$$= 3a + 5b - 7$$

Section-D

9. $x = 3$

(Hint: The sides of a triangle are in the ratio 3:2:4.

Let the common multiple be x.

So, sides are 3x, 2x and 4x cm

Since the perimeter is 27cm,

$$3x + 2x + 4x = 27$$

$$9x = 27$$

$$x = 27/9$$

$$x = 3$$

$$3x = 3(3) = 9\text{cm}$$

$$2x = 2(3) = 6\text{cm}$$

$$4x = 4(3) = 12\text{cm}$$

10. 9847, 4897

(Hint: The greatest number which can be formed is 9847, since 9 is the biggest digit followed by 8 and then by 4 and 7 is fixed at ones place.)

The smallest number which can be formed is 4897, since 4 is the smallest digit followed by 8 and then by 9, and 7 is fixed at ones place.)

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