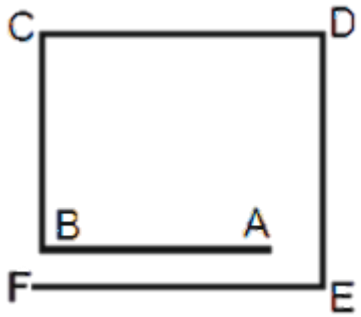
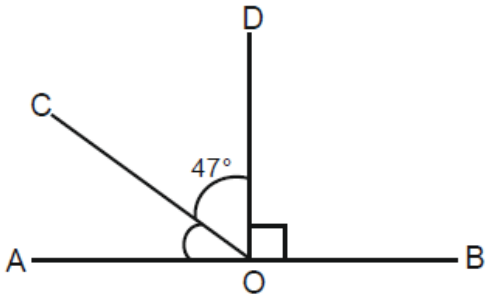
Garden High School
Mathematics
Class V

ANNUAL SOLVED PAPER

2023-24

Contents





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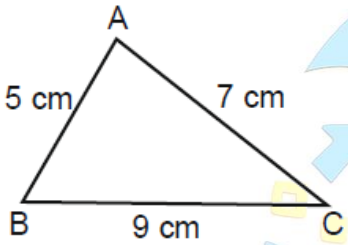
(d) Classify the following triangles according to the measure of their sides. [2] 18



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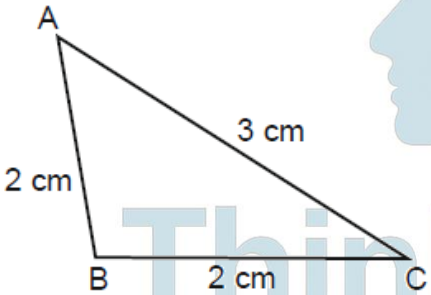

(ii)

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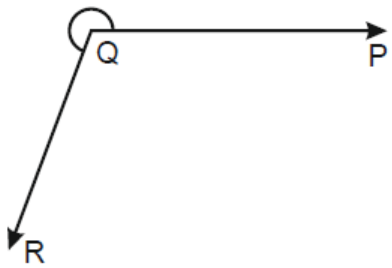
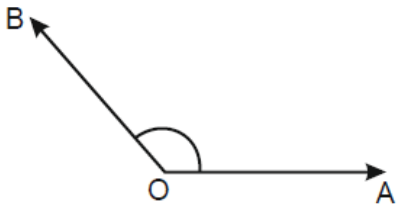
(e) Identify the type of angles marked in each figure. [2] 19



(i)

..... 19



(ii)

..... 19

Mental Maths

1. If $\frac{3}{8}$ my money is ₹36, the whole amount is ₹ **108**.

2. Take away the sum of 125 and 75 from 100. Answer: **–100**

3. Write the prime factors of 187. Answer: **11, 17**

4. Fill in the box with the smallest possible digit, so that the number is divisible by 9. 13 **2** 84

5. Insert >, < or = in the blank space: $\frac{60}{17}$ **<** $3\frac{10}{17}$

6. The predecessor of XCV is XCIV .

7. Divide the reciprocal of $\frac{3}{8}$ by the reciprocal of $\frac{5}{16}$. Answer: $\frac{5}{6}$

8. How many sixteenths are there in $5\frac{3}{4}$? Answer: **92**

9. Simplify: 5 of 16 + 77 ÷ 7 Answer: **91**

10. The LCM of the first nine counting numbers is **2520**.

1. Answer the following:

(a) Find the sum of the smallest 4-digit number with different digits and the greatest 8-digit number. Write your answer in words according to the International System. [2+1]

The smallest 4-digit number with different digits = 1, 0 2 3

The greatest 8-digit number = 9, 9 9, 9 9, 9 9 9

Sum = 9 9, 9 9 9, 9 9 9 + 1, 0 2 3 = 1 0 0, 0 0 1, 0 2 2

HTM	TM	M	HTh	TTh	Th	H	T	O
	9	9	9	9	9	9	9	9
+					1	0	2	3
1	0	0	0	0	1	0	2	2

Answer: 1 0 0, 0 0 1, 0 2 2. The sum is one hundred million one thousand and twenty-two.

(b) Find the product of the place values of the two 9s in the number 89,782,509. Round off the given number to the nearest thousands. [2+1]

The given number is 8 9, 7 8 2, 5 0 9

TM	M	HTh	TTh	Th	H	T	O
8	9	7	8	2	5	0	9

The place of of 9's are 9, 0 0 0, 0 0 0 and 9

Product = 9, 0 0 0, 0 0 0 × 9 = 8 1, 0 0 0, 0 0 0

Nearest thousand of 8 1, 0 0 0, 0 0 0 is 8 1, 0 0 0, 0 0 0

Answer: The rounded of 8 1, 0 0 0, 0 0 0 to nearest thousand is 8 1, 0 0 0, 0 0 0

(c) Evaluate the following and express the result in both Hindu-Arabic and Roman numerals: MDCCCLVI – CXVI [3]

The Hindu-Arabic number of MDCCCLVI = 1 8 5 6

The Hindu-Arabic number of CXVI = 1 1 6

∴ **MDCCCLVI – CXVI**

= 1 8 5 6 – 1 1 6

= 1, 7 4 0

∴ **Roman numeral of 1740 is MDCCXL**

Answer: The difference is 1740 in Hindu-Arabic and MDCCXL in Roman numeral.

Working

M = 1000
D = 500
C = 100
L = 50
V = 5
I = 1
So,

MDCCCLVI
= 1000 + 500 + 100 + 100 + 100 + 50 + 5 + 1
= **1856**

CXVI
= 100 + 10 + 5 + 1
= **116**

1740
= **1000 + 500 + 100 + 100 + 40**
= **MDCCXL**

(d) Supply the missing digits: [3]

8	□	3	□	1
– 5	7	□	4	□
□	2	0	7	6

8	**9**	3	**2**	1
– 5	7	**2**	4	**5**
3	2	0	7	6

(e) Estimate the following product and verify the answer: [3]

8 1 9 0 × 2 6

8 1 9 0 rounded off to the nearest thousand = 8 0 0 0

2 6 rounded off to the nearest tens = 3 0

∴ The estimated product = 8 0 0 0 × 3 0 = 2 4 0 0 0 0

∴ The actual product = 8 1 9 0 × 2 6 = 2, 1 2, 9 4 0

Answer: The estimated product is 2, 4 0, 0 0 0.

The actual product is 2, 1 2, 9 4 0.

Working

8 1 9 0
× 2 6
4 9 1 4 0
1 6 3 8 0 ×
2 1 2 9 4 0

(f) Find the product of the following using the appropriate multiplication property (Do not use the long multiplication method): [3]

(i) 3 5 4 × 1 0 2

3 5 4 × 1 0 2

= 3 5 4 × (1 0 0 + 2)

= (3 5 4 × 1 0 0) + (3 5 4 × 2)

= 3 5 4 0 0 + 7 0 8

= 3 6, 1 0 8

Answer: 3 6, 1 0 8

(g) (i) Arrange the following integers in an ascending order:
–19, –109, – 91, –901, –190 [2]

(ii) Write the predecessor of –99. [1]

Answer (i) The ascending order of the given numbers is

–901, –190, –109, – 91, –19

Answer (ii) The predecessor of – 99 is – 100.

(h) Evaluate: –100 – (– 67) [3]

(– 100) – (– 67)

= – 100 + 67

= – 33

Answer: – 33

(i) A milk man delivers 2475 bottles of milk every day. How many bottles will he deliver in 6 weeks? [3]

1 week = 7 days

6 weeks = (6 × 7) days = 42 days

In a day, number of bottles are delivered by a milk man = 2475

In 42 days, number of bottles are delivered by a milk man = 2475 × 42

= 1,03,950

Answer: The milk man will deliver 1,03,950 bottles in 6 weeks.

Working

```
  2 4 7 5
×     4 2
---------
    4 9 5 0
  9 9 0 0 ×
---------
1 0 3 9 5 0
```

(j) The product of two numbers is 1755 and their H.C.F is 15. Find their L.C.M. [3]

The product of two numbers = 1755

Their H.C.F = 15

Product of two numbers = H.C.F × L.C.M

∴ L.C.M = product of two numbers ÷ H.C.F

= 1 7 5 5 ÷ 1 5

= 1 1 7

Answer: Their L.C.M. is 117.

Working

```
        1 1 7
      ---------
15  ) 1 7 5 5
      1 5
      -------
        2 5
        1 5
      -------
        1 0 5
        1 0 5
      -------
            0
```

2.

(a) Using the digits 4, 7, 3, 2, 0 and 9 form the greatest 7-digit number repeating the smallest prime number twice. Find the difference between the number formed and the smallest 7-digit odd number. [2+2]

The smallest prime number among the given digits 4, 7, 3, 2, 0 and 9 is 2.

The greatest 7-digit number among the given digits 4, 7, 3, 2, 0 and 9 at where 2 is repeated twice = 9 7, 4 3, 2 2 0

The smallest 7-digit odd number = 1 0, 0 0, 0 0 1

Difference = 9 7, 4 3, 2 2 0 – 1 0, 0 0, 0 0 1 = 9 7, 4 2, 1 9 7

	TL	L	TTh	Th	H	T	O
	9	7	4	3	2	2	0
–	1	0	0	0	0	0	1
	8	7	4	3	2	1	9

Answer: The difference is 8743219.

(b) Find the HCF of 540 and 990 using the long division method. [4]

```
          1
      ┌──────
5 4 0 | 9 9 0
        5 4 0
      ──────
        4 5 0 | 5 4 0
                4 5 0
              ──────
                9 0 | 4 5 0
                      4 5 0
                    ──────
                          0
```

Answer: The HCF of 540 and 990 is 90.

(c) Find the smallest number which when divided by 122, 241 and 343 leaves exactly 3 as the remainder in each case. [4]

The smallest number which when divided by 122, 241 and 343 leaves exactly 3 as the remainder in each case is the LCM of 122–3, 241–3 and 343–3

122–3 = 119

241–3 = 238

343–3 = 340

2	119, 238, 340
7	119, 119, 170
17	17, 17, 170
	1, 1, 10

LCM = 2 × 7 × 17 × 10

= 2380

Answer: The smallest number which when divided by 122, 241 and 343 leaves exactly 3 as the remainder in each case is 2380

(d) Divide 44,460 by the highest factor of 36. [4]

The highest factor of 36 is 36.

```
            1 2 3 4
        ┌──────────
  3 6   │ 4 4 4 3 6
          3 6
        ──────
            8 4
            7 2
        ──────
              1 2 3
              1 0 8
            ──────
                1 5 4
                1 4 4
              ──────
                  1 0
```

Answer: The quotient is 1234 and the remainder is 10

(e) Subtract + 17 from –280.

Write the additive inverse of your answer. [3 + 1]

(–280) – (+17)

= – 280 – 17

= – 297

The additive inverse of – 297 is 297.

Answer: The required result is – 297.

The additive inverse of – 297 is 297.

3.

(a) Vinay had ₹56000. He paid $\frac{5}{8}$ of it to his assistant and divided the remaining amount equally among his three workers. Find:
(i) the amount his assistant got.
(ii) the amount of money each worker got. **[2 + 3]**

Amount of money Vinay had = ₹56000

He paid $\frac{5}{8}$ of his money to his assistant.

∴ Amount of money he paid to his assistant

$$= ₹\left(\frac{5}{\cancel{8}} \times \cancel{56000}^{7000}\right)$$

= ₹ 35000

The remaining amount = ₹56000 − ₹35000

= ₹21000

Accoring to the problem, ₹21000 was divided equally among his 3 workers.

∴Each worker got = ₹21000 ÷ 3

= ₹7000

Answer: (i) His assistant got ₹35000

(ii) Each worker got ₹7000

(b) Simplify: [5 + 5]

(i) $38 + \{(27 \div 9 - 3) + 6\} \div 3 \text{ of } 2 - 2 \times 7$

(ii) $\frac{5}{6} of \frac{3}{4} \div \frac{7}{8} \times 1\frac{1}{2}$

(i) $38 + \{(27 \div 9 - 3) + 6\} \div 3 \text{ of } 2 - 2 \times 7$

$= 38 + \{(3 - 3) + 6\} \div 3 \text{ of } 2 - 2 \times 7$

$= 38 + \{0 + 6\} \div 6 - 2 \times 7$

$= 38 + 6 \div 6 - 2 \times 7$

$= 38 + 1 - 2 \times 7$

$= 38 + 1 - 14$

$= 39 - 14$

$= 25$

Answer: 25

(ii) $\frac{5}{6} of \frac{3}{4} \div \frac{7}{8} \times 1\frac{1}{2}$

$= (\frac{5}{\cancel{6}_2} \times \frac{\cancel{3}}{4}) \div \frac{7}{8} \times \frac{3}{2}$

$= \frac{5}{8} \div \frac{7}{8} \times \frac{3}{2}$

$= \frac{5}{\cancel{8}} \times \frac{\cancel{8}}{7} \times \frac{3}{2}$

$= \frac{15}{14}$

$= 1\frac{1}{14}$

Answer: $1\frac{1}{14}$

(c) (i) Find the supplement of $\frac{1}{3}$ of 180°. [2]

(ii) State true or false for the following statements: [3]

(A) The supplement of an obtuse angle is an obtuse angle.

(B) In an acute-angled triangle, all the three angles of the triangle are acute angles.

(C) The sum of the angles formed around a point is thrice a right angle.

(i) $\frac{1}{\cancel{3}} \text{ of } \overset{60^\circ}{\cancel{180^\circ}}$

$= 60^\circ$

$\therefore$ Supplement of $60^\circ = 180^\circ - 60^\circ$

$= 120^\circ$

Answer: Supplement of $\frac{1}{3}$ of 180° is 120°.

(ii)

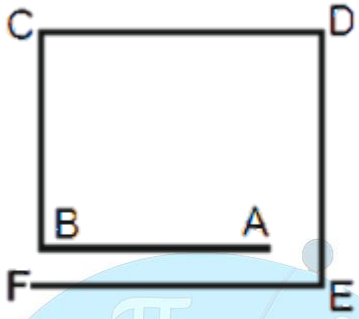
(A) The supplement of an obtuse angle is an obtuse angle. **FALSE**

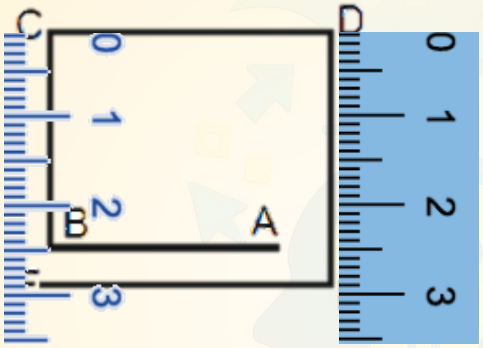
(B) In an acute-angled triangle, all the three angles of the triangle are acute angles. **TRUE**

(C) The sum of the angles formed around a point is thrice a right angle. **FALSE**

4.

(a) Measure the vertical line segments in the following figure: [2]



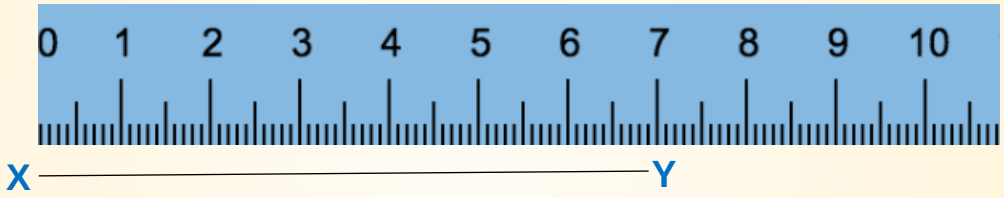


The vertical line segments of the given figure are BC and DE.

BC = 2.5 cm

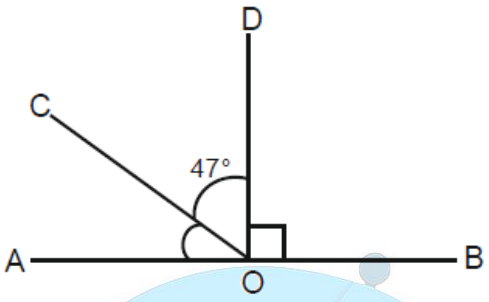
DE = 2.9 cm

(b) Draw a horizontal line segment $\overline{XY}$ measuring 6.9 cm. [2]



A horizontal line segment $\overline{XY}$ = 6.9 cm

(c) Find the measure of ∠AOC in the following figure: [2]



∵AB is a straight line.

∴∠AOB = 180°

∵ DO is perpendicular to AB

∴∠BOD = 90°

Given ∠COD = 47°

From the figure we can write ∠AOB = ∠AOC + ∠COD + ∠DOB

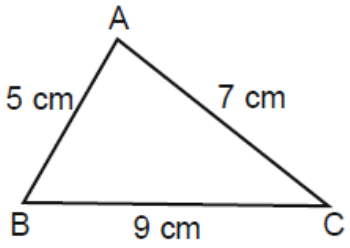
∴∠AOC + ∠COD + ∠DOB = 180°

∠AOC + 47°+ 90° = 180°

∠AOC = 180° – 47°– 90° = 43°

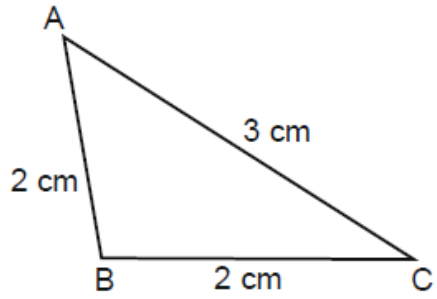
Answer: ∠AOC = 43°

(d) Classify the following triangles according to the measure of their sides. [2]



(i)

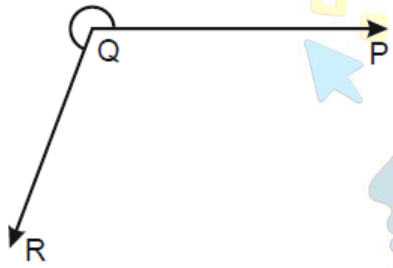
Scalene Triangle



(ii)

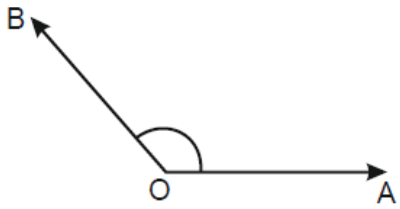
Isosceles Triangle

(e) Identify the type of angles marked in each figure. [2]



(i)

Reflex Angle



(ii)

Obtuse Angle

GARDEN HIGH SCHOOL

CLASS V

Half-Yearly Examination, 2023–24

Mathematics

Time: ½ hour Full Marks: 10 × 2 = 20

Name: _____ Section: _____

1. If $\frac{3}{8}$ of my money is ₹36, the whole amount is ₹_____.

2. Take away the sum of 125 and 75 from 100. Answer: _____

3. Write the prime factors of 187. Answer: _____

4. Fill in the box with the smallest possible digit, so that the number is divisible by 9.

   13 ☐ 84

5. Insert >, < or = in the blank space:

   $\frac{60}{17}$ ◯ $3\frac{10}{17}$

6. The predecessor of XCV is _____.

7. Divide the reciprocal of $\frac{3}{8}$ by the reciprocal of $\frac{5}{16}$. Answer: _____

8. How many sixteenths are there in $5\frac{3}{4}$? Answer: _____

9. Simplify: 5 of 16 + 77 ÷ 7 Answer: _____

10. The LCM of the first nine counting numbers is _____.

GARDEN HIGH SCHOOL

CLASS V

Half-Yearly Examination, 2023–24

Mathematics

Time: 2 hours Full Marks: 80

All necessary rough work must be done and shown in the margin on the right-hand side of the page containing the answer.

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1. Answer the following:

   (a) Find the sum of the smallest 4-digit number with different digits and the greatest 8-digit number. Write your answer in words according to the International System. [2 + 1]

   (b) Find the product of the place values of the two 9s in the number 89,782,509. Round off the given number to the nearest thousands. [2 + 1]

   (c) Evaluate the following and express the result in both Hindu-Arabic and Roman numerals: [3]

   MDCCCLVI – CXVI

   (d) Supply the missing digits: [3]

$$\begin{array}{rccccc} & 8 & \square & 3 & \square & 1 \\ - & 5 & 7 & \square & 4 & \square \\ \hline & \square & 2 & 0 & 7 & 6 \end{array}$$

   (e) Estimate the following product and verify your answer: [3]

   8190×26

   (f) Find the product of the following using the appropriate multiplication property. (Do not use the long multiplication method.) [3]

   354×102

   (g) (i) Arrange the following integers in an ascending order: [2]

   –19, –109, – 91, –901, –190

   (ii) Write the predecessor of –99. [1]

   (h) Evaluate: –100 – (– 67) [3]

(i) A milk man delivers 2475 bottles of milk every day. How many bottles will he deliver in 6 weeks? [3]

(j) The product of two numbers is 1755 and their H.C.F is 15. Find their L.C.M. [3]

2. (a) Using the digits 4, 7, 3, 2, 0 and 9 form the greatest 7-digit number repeating the smallest prime number twice. Find the difference between the number formed and the smallest 7-digit odd number. [2 + 2]

(b) Find the HCF of 540 and 990 using the long division method. [4]

(c) Find the smallest number which when divided by 122, 241 and 343 leaves exactly 3 as the remainder in each case. [4]

(d) Divide 44,460 by the highest factor of 36. [4]

(e) Subtract + 17 from –280.
Write the additive inverse of your answer. [3 + 1]

3. (a) Vinay had ₹56000. He paid $\frac{5}{8}$ of it to his assistant and divided the remaining amount equally among his three workers. Find: [2 + 3]

(i) the amount his assistant got.

(ii) the amount of money each worker got.

(b) Simplify:

(i) $38 + \{(27 \div 9 - 3) + 6\} \div 3$ of $2 - 2 \times 7$

(ii) $\frac{5}{6}$ of $\frac{3}{4} \div \frac{7}{8} \times 1\frac{1}{2}$ [5 + 5]

(c) (i) Find the supplement of $\frac{1}{3}$ of 180°. [2]

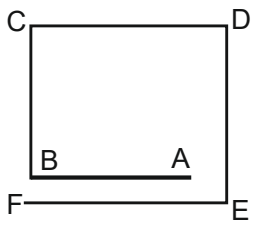
(ii) State true or false for the following statements: [3]

(A) The supplement of an obtuse angle is an obtuse angle.

(B) In an acute-angled triangle, all the three angles of the triangle are acute angles.

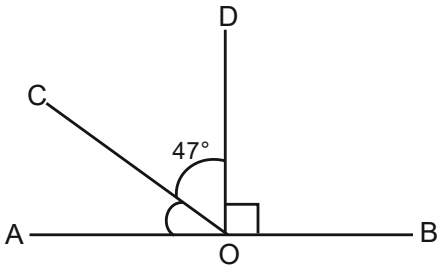
(C) The sum of the angles formed around a point is thrice a right angle.

4. (a) Measure the vertical line segments in the following figure: [2]



(b) Draw a horizontal line segment $\overline{XY}$ measuring 6.9 cm. [2]

(c) Find the measure of $\angle AOC$ in the following figure: [2]



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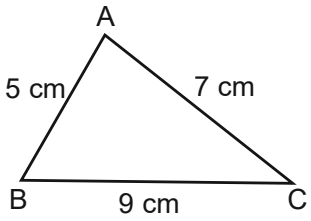
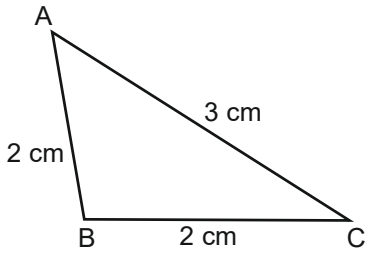


(i)



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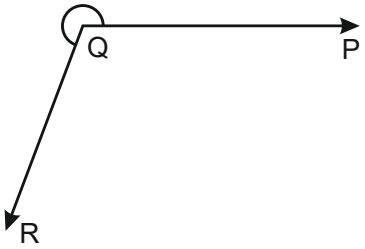
(e) Identify the type of angles marked in each figure. [2]



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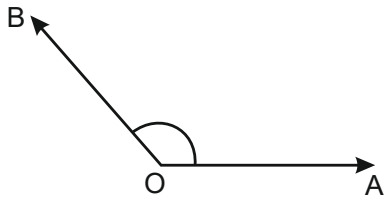

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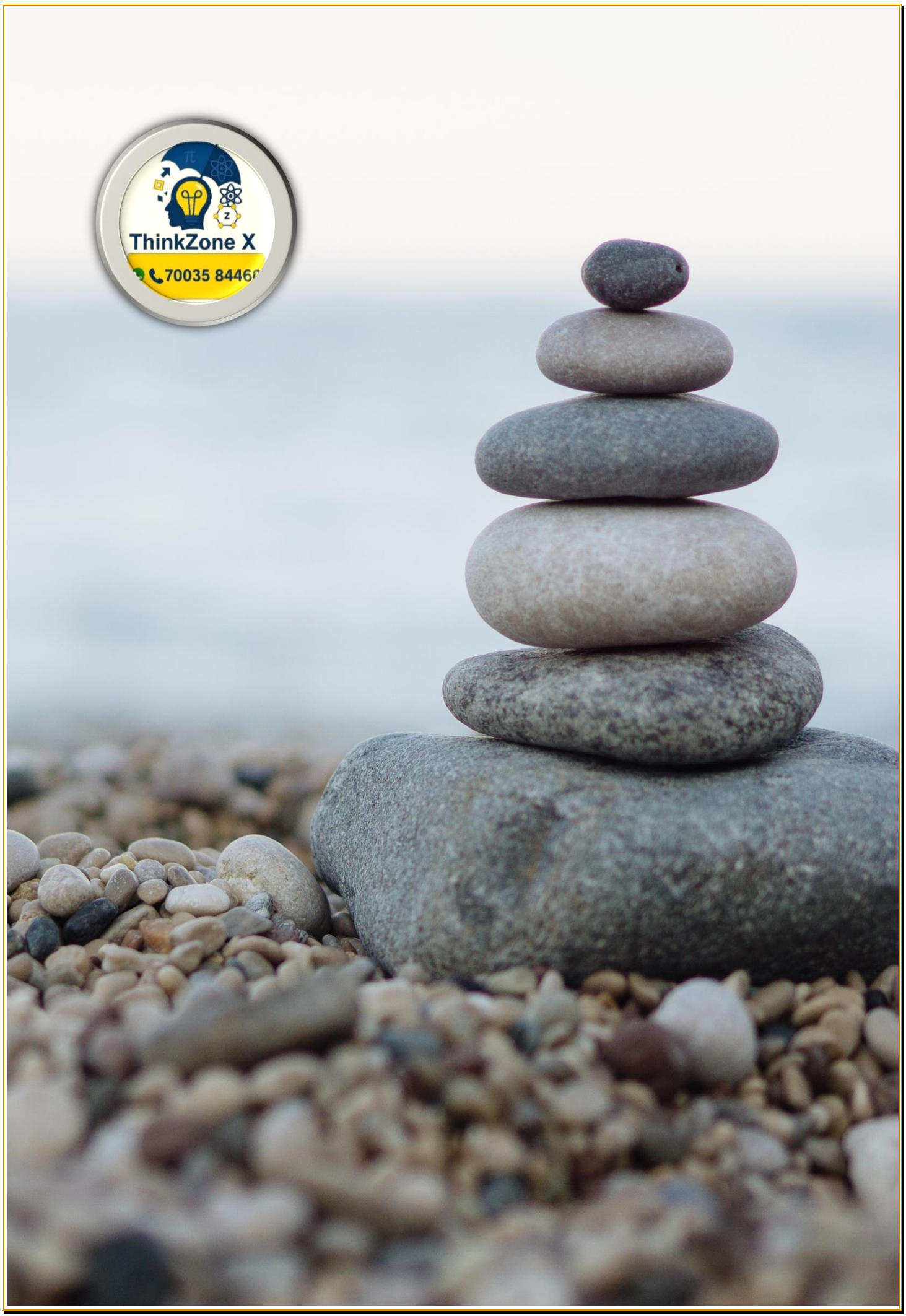
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