

## 50 Questions

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**Que. 1** Find the value of x in the following question.

$$25\% \text{ of } 24^2 + 37.5\% \text{ of } 8^2 + (121/11 \times \sqrt{144}) + x^2 = (22 \times 25) - 17^2 + 15\% \text{ of } 800$$

1. 7
2. 12
3. 9
4. 11
5. 8

Correct Option - 3

**Solution:**

$$25\% \text{ of } 24^2 + 37.5\% \text{ of } 8^2 + (121/11 \times \sqrt{144}) + x^2 = 22 \times 25 - 17^2 + 15\% \text{ of } 800$$

$$(1/4 \times 576) + (3/8 \times 64) + (11 \times 12) + x^2 = (550 - 289 + 120)$$

$$144 + 24 + 132 + x^2 = 381$$

$$x^2 = 81$$

$$x = 9$$

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**Que. 2** Find the value of x in the following question.

$$20\% \text{ of } 800 + 35\% \text{ of } 600 + 17^2 + 12^2 + x = (80 \times 210 \times 1/3) + (480/24)$$

1. 4717
2. 4887
3. 4767
4. 4817
5. 6887

Correct Option - 4

**Solution:**

$$20\% \text{ of } 800 + 35\% \text{ of } 600 + 17^2 + 12^2 + x = (80 \times 210 \times 1/3) + 480/24$$

$$(20/100 \times 800) + (35/100 \times 600) + 289 + 144 + x = (80 \times 70) + 20$$

$$160 + 210 + 289 + 144 + x = 5620$$

$$x = 4817$$

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**Que. 3** Find the value of x in the following question.

$$40\% \text{ of } 800 + 37.5\% \text{ of } 320 + (12 \times 15) - x = 5^3 + 20\% \text{ of } 650$$

1. 425
2. 415

3. 395
4. 385
5. 365

Correct Option - 5

**Solution:**

$$40\% \text{ of } 800 + 37.5\% \text{ of } 320 + (12 \times 15) - x = 5^3 + 20\% \text{ of } 650$$

$$(40/100 \times 800) + (37.5/100 \times 320) + 180 - x = 125 + (20/100 \times 650)$$

$$320 + (3/8 \times 320) + 180 - x = 125 + 130$$

$$320 + (3 \times 40) + 180 - x = 125 + 130$$

$$320 + 120 + 180 - x = 255$$

$$620 - x = 255$$

$$x = 365$$

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**Que. 4** Find the value of x in the following question.

$$75\% \text{ of } 400 + 33.33\% \text{ of } 600 - x^2 = 12^2 + (35/7) \times 2 + 15^2$$

1. 14
2. 9
3. 12
4. 11
5. 13

Correct Option - 4

**Solution:**

$$75\% \text{ of } 400 + 33.33\% \text{ of } 600 - x^2 = 12^2 + (35/7) \times 2 + 15^2$$

$$\Rightarrow 3/4 \times 400 + 1/3 \times 600 - x^2 = 144 + 70/2 + 225$$

$$\Rightarrow 300 + 200 - x^2 = 144 + 10 + 225$$

$$\Rightarrow 500 - x^2 = 379$$

$$\Rightarrow 500 - 379 = x^2$$

$$\Rightarrow 121 = x^2$$

$$\Rightarrow x^2 = 121$$

$$\Rightarrow x = 11$$

**∴ The correct answer is option (4).**

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**Que. 5** Find the value of x in the following question.

$$\sqrt{1296} + \sqrt{256} + 30\% \text{ of } x = 20\% \text{ of } 175 + \sqrt{196} + \sqrt{144}$$

1. 20
2. 45
3. 30
4. 25

5. 40

Correct Option - 3

**Solution:**

$$\sqrt{1296} + \sqrt{256} + 30\% \text{ of } x = 20\% \text{ of } 175 + \sqrt{196} + \sqrt{144}$$

$$36 + 16 + 30/100 \times x = 20/100 \times 175 + 14 + 12$$

$$36 + 16 + 0.3x = 35 + 26$$

$$0.3x = 61 - 52$$

$$0.3x = 9$$

$$x = 30$$

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**Que. 6** Two numbers are in the ratio 4 : 5. If 10 is added to the numerator and 2 is subtracted from the denominator, the ratio becomes 5 : 6. What is the sum of both numbers?

1. 530
2. 430
3. 630
4. 730
5. 830

Correct Option - 3

**Given:**

Ratio of the two numbers = 4 : 5

After adding 10 to the numerator and subtracting 2 from the denominator, the new ratio = 5 : 6

**Formula used:**

If two numbers are in the ratio  $a : b$ , then the numbers can be represented as  $4x$  and  $5x$ .

**Calculation:**

Let the numbers be  $4x$  and  $5x$ .

New ratio after modification:

$$\frac{4x+10}{5x-2} = \frac{5}{6}$$

$$\Rightarrow 6(4x + 10) = 5(5x - 2)$$

$$\Rightarrow 24x + 60 = 25x - 10$$

$$\Rightarrow 25x - 24x = 60 + 10$$

$$\Rightarrow x = 70$$

Numbers are  $4x = 4 \times 70 = 280$  and  $5x = 5 \times 70 = 350$

Sum of both numbers =  $280 + 350$

$$\Rightarrow \text{Sum} = 630$$

**∴ The sum of both numbers is 630.**

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**Que. 7** If  $(-3)^{m+1} \times (-3)^5 = (-3)^7$ , then the value of m is :

1. 5
2. 7

3. 1
4. More than one of the above
5. None of the above

Correct Option - 3

**Given:**

$$(-3)^{m+1} \times (-3)^5 = (-3)^7$$

**Formula used:**

$$a^m \times a^n = a^{m+n}$$

**Calculation:**

$$(-3)^{m+1+5} = (-3)^7$$

$$\Rightarrow (-3)^{m+6} = (-3)^7$$

Since the bases are the same, we can equate the exponents:

$$m + 6 = 7$$

$$\Rightarrow m = 7 - 6$$

$$\Rightarrow m = 1$$

**∴ The value of m is 1.**

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**Que. 8** Which of the following is true ?

1.  $\frac{31}{36} < \frac{17}{18} < \frac{59}{60} < \frac{43}{45}$
2.  $\frac{31}{36} < \frac{17}{18} < \frac{43}{45} < \frac{59}{60}$
3.  $\frac{17}{18} < \frac{31}{36} < \frac{43}{45} < \frac{59}{60}$
4. More than one of the above
5. None of the above

Correct Option - 2

**Calculation:**

$$31/36 = 0.86$$

$$17/18 = 0.94$$

$$59/60 = 0.98$$

$$43/45 = 0.955$$

So,

$$0.86 < 0.94 < 0.955 < 0.98$$

$$\text{i.e. } \frac{31}{36} < \frac{17}{18} < \frac{43}{45} < \frac{59}{60}$$

**∴ The correct answer is option (2).**

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**Que. 9** If  $(\frac{1}{5})^{3x} = 0.008$ , then the value of  $(0.25)^x$  is

1. 1.0
2. 4.0
3. 0.25

4. More than one of the above
5. None of the above

**Correct Option - 3**

**Explanation:**

$$\text{Given } \left(\frac{1}{5}\right)^{3x} = 0.008$$

We need to find the value of  $(0.25)^x$ .

We know that

$$0.008 = \frac{1}{125} = \left(\frac{1}{5}\right)^3$$

So, we can rewrite the equation as

$$\left(\frac{1}{5}\right)^{3x} = \left(\frac{1}{5}\right)^3$$

Since the bases are the same, we can equate the exponents:

$$3x = 3 \Rightarrow x = 1$$

$$(0.25)^x = (0.25)^1 = 0.25$$

Hence **option 3** is correct.

**Que. 10** The value of  $(0.03125)^{-\frac{2}{5}}$  is

1. 6
2. 9
3. 4
4. More than one of the above
5. None of the above

**Correct Option - 3**

**Explanation:**

We know that  $0.03125 = \frac{1}{32}$

$$\left(\frac{1}{32}\right)^{-\frac{2}{5}}$$

Using the property  $a^{-b} = \frac{1}{a^b}$ , we get:

$$\left(\frac{1}{32}\right)^{-\frac{2}{5}} = 32^{\frac{2}{5}}$$

Since  $32 = 2^5$ , we can rewrite this as:

$$32^{\frac{2}{5}} = (2^5)^{\frac{2}{5}} = 2^{5 \times \frac{2}{5}} = 2^2 = 4$$

Hence **option 3** is correct.

**Que. 11** The value of  $\frac{2\{(467+359)^2 - 2 \times 467 \times 359\}}{(467)^2 + (359)^2}$  is

1. 2
2. 3
3. 1
4. More than one of the above
5. None of the above

**Correct Option - 1**

**Concept Used:**

We will use algebraic identities to simplify the given expression.

**Formula Used"**

$$(a + b)^2 = a^2 + 2ab + b^2$$

**Calculation:**

$$\text{The expression is } \frac{2(467+359)^2 - 2 \times 467 \times 359}{(467)^2 + (359)^2}$$

Let  $a = 467$  and  $b = 359$ .

$$\text{Numerator: } 2((467 + 359)^2 - 2 \times 467 \times 359)$$

$$\Rightarrow 2((a + b)^2 - 2ab)$$

$$\Rightarrow 2(a^2 + 2ab + b^2 - 2ab)$$

$$\Rightarrow 2(a^2 + b^2)$$

$$\text{Denominator: } (467)^2 + (359)^2$$

$$\Rightarrow a^2 + b^2$$

Now, the expression becomes:

$$\Rightarrow \frac{2(a^2 + b^2)}{a^2 + b^2}$$

$$\Rightarrow \frac{2(a^2 + b^2)}{a^2 + b^2} = 2$$

**Hence, the value of the given expression is 2.**

**Que. 12** It is given that  $\sqrt{4489} = 67$ , what is the value of  $\sqrt{44.89} + \sqrt{0.4489} + \sqrt{0.004489} + \sqrt{0.00004489}$  ?

1. 74.437
2. 744.37
3. 7.4437
4. More than one of the above
5. None of the above

**Correct Option - 3**

**Calculation:**

$$\text{Given, } \sqrt{4489} = 67$$

$$\Rightarrow \sqrt{4489} = 67$$

Now, let's find the square roots of the given decimal numbers:

$$\Rightarrow \sqrt{44.89} = \sqrt{(4489/100)} = 67/10 = 6.7$$

$$\Rightarrow \sqrt{0.4489} = \sqrt{(4489/10000)} = 67/100 = 0.67$$

$$\Rightarrow \sqrt{0.004489} = \sqrt{(4489/1000000)} = 67/1000 = 0.067$$

$$\Rightarrow \sqrt{0.00004489} = \sqrt{(4489/100000000)} = 67/10000 = 0.0067$$

Adding all these values together:

$$\Rightarrow 6.7 + 0.67 + 0.067 + 0.0067$$

$$\Rightarrow 6.7 + 0.67 = 7.37$$

$$\Rightarrow 7.37 + 0.067 = 7.437$$

$$\Rightarrow 7.437 + 0.0067 = 7.4437$$

**∴ The value of  $\sqrt{44.89} + \sqrt{0.4489} + \sqrt{0.004489} + \sqrt{0.00004489}$  is 7.4437.**

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**Que. 13** If  $(m)^n = 32$  where m and n are positive integers, then the value of  $(n)^{mn}$  is

1. 25
2.  $5^{10}$
3.  $5^{25}$
4. 32
5. None of the above

Correct Option - 2

**Given:**

$$(m)^n = 32 \text{ where } m \text{ and } n \text{ are positive integers.}$$

**Formula Used:**

The value of  $(n)^{mn}$ .

**Calculation:**

Possible pairs of (m, n) such that  $m^n = 32$  are:

$$\Rightarrow 32 = 2^5$$

$$\text{So, } m = 2 \text{ and } n = 5$$

Now, we need to find  $(n)^{mn}$

$$\Rightarrow (5)^{2 \times 5}$$

$$\Rightarrow 5^{10}$$

**The value of  $(n)^{mn}$  is  $5^{10}$**

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**Que. 14** The value of  $\frac{18}{(5+\sqrt{7})} + \frac{4}{(\sqrt{7}+\sqrt{3})} + \frac{1}{(\sqrt{3}+\sqrt{2})} + \frac{1}{(\sqrt{2}+1)}$

1. 4
2. 3
3. 5
4. More than one of the above
5. None of the above

Correct Option - 1

**Calculation:**

We have,

$$\Rightarrow (18)/(5+\sqrt{7})$$

Multiply numerator and denominator by  $(5-\sqrt{7})$

$$\Rightarrow (18(5-\sqrt{7})) / ((5+\sqrt{7})(5-\sqrt{7}))$$

$$\Rightarrow (90-18\sqrt{7}) / (25-7)$$

$$\Rightarrow (90-18\sqrt{7}) / 18$$

$$\Rightarrow 5 - \sqrt{7}$$

Similarly,

$$(4) / (\sqrt{7} + \sqrt{3}) = \sqrt{7} - \sqrt{3}$$

$$(1) / (\sqrt{3} + \sqrt{2}) = \sqrt{3} - \sqrt{2}$$

$$(1) / (\sqrt{2} + 1) = \sqrt{2} - 1$$

Adding all the simplified terms:

$$\Rightarrow (5 - \sqrt{7}) + (\sqrt{7} - \sqrt{3}) + (\sqrt{3} - \sqrt{2}) + (\sqrt{2} - 1)$$

Notice all the irrational parts cancel out:

$$\Rightarrow 5 - 1 = 4$$

**∴ The correct answer is option 1.**

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**Que. 15** What approximate value will come in place of question mark (?) in the given questions? (You are not expected to calculate the exact value).

$$[\sqrt{(1764.28)} \div 14.019] \times 18.032 = ? - 516.997$$

1. 598
2. 531
3. 571
4. 481
5. 578

Correct Option - 3

Solution:

$$[\sqrt{(1764.28)} \div 14.019] \times 18.032 = ? - 516.997$$

$$[\sqrt{(1764.09)} \div 14] \times 18 = ? - 517$$

$$(42/14) \times 18 = ? - 517$$

$$?= 571$$

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**Que. 16** What approximate value will come in place of question mark (?) in the given questions? (You are not expected to calculate the exact value).

$$(60867.89 - 7986.90 - 3284.8 - 12828.90) \times \sqrt{100} = ?$$

1. 382780
2. 374680
3. 367670
4. 377670
5. 387980

**Correct Option - 3**

**Given:**

$$(60867.89 - 7986.90 - 3284.8 - 12828.90) \times \sqrt{100} = ?$$

**Approximation:**

$$60867.89 \approx 60868$$

$$7986.90 \approx 7987$$

$$3284.8 \approx 3285$$

$$12828.90 \approx 12829$$

$$\sqrt{100} = 10$$

**Calculation:**

$$60868 - 7987 - 3285 - 12829 = ? / 10$$

Step-by-step subtraction:

$$60868 - 7987 \approx 52881$$

$$52881 - 3285 \approx 49596$$

$$49596 - 12829 \approx 36767$$

Multiply by 10:

$$36767 \times 10 = 367670$$

**Therefore, the approximate value that will come in place of the question mark is 367670.**

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**Que. 17**

What approximate value will come in place of question mark (?) in the given questions? (You are not expected to calculate the exact value).

$$\sqrt{(1088.89)/10.89} \times 40.09 = ? - 399.89$$

1. 520
2. 580
3. 540
4. 560
5. 590

**Correct Option - 1**

**Solution:**

$$\sqrt{(1088.89)/10.89} \times 40.09 = ? - 399.89$$

$$33/11 \times 40 = ? - 400$$

$$3 \times 40 = ? - 400$$

$$? = (400 + 120)$$

$$? = 520$$

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**Que. 18**

What approximate value will come in place of question mark (?) in the given questions? (You are not expected to calculate the exact value).

$$? \% \text{ of } 599.80 + 60.07\% \text{ of } 349.78 = 449.89\% \text{ of } 79.98$$

1. 30
2. 35
3. 20
4. 40
5. 25

Correct Option - 5

Solution:

$$? \% \text{ of } 599.80 + 60.07\% \text{ of } 349.78 = 449.89\% \text{ of } 79.98$$

$$? \% \text{ of } 600 + 60\% \text{ of } 350 = 450\% \text{ of } 80$$

$$? \% \text{ of } 600 + 60\% \text{ of } 350 = 450\% \text{ of } 80$$

$$? \% \text{ of } 600 + 210 = 360$$

$$?/100 \times 600 = 150$$

$$6 \times ? = 150$$

$$? = 25$$

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**Que. 19** What approximate value will come in place of question mark (?) in the given questions? (You are not expected to calculate the exact value)

$$\sqrt{(? + 54.68) \times 3.04} = 19.78\% \text{ of } 149.68$$

1. 50
2. 60
3. 55
4. 45
5. 40

Correct Option - 4

Solution:

$$\sqrt{(? + 54.68) \times 3.04} = 19.78\% \text{ of } 149.68$$

$$\sqrt{(? + 55) \times 3} = 20\% \text{ of } 150$$

$$\sqrt{(? + 55)} = 30/3$$

$$\sqrt{(? + 55)} = 10$$

$$(? + 55) = 100$$

$$(? + 55) = 100$$

$$? = 45$$

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**Que. 20** Find the value of x.

$$2^4/4^4 \times 16 \times 2x \div 2^2 \times 64 = 4^4$$

1. 4

2. 9
3. 6
4. 8
5. 7

Correct Option - 4

**Solution:**

$$\begin{aligned}2^4/4^4 \times 16 \times 2x \div 2^2 \times 64 &= 4^4 \\2^4/2^8 \times 16 \times 2x/2^2 \times 64 &= 16 \times 16 \\1/2^4 \times 16 \times 2x/4 \times 64 &= 16 \times 16 \\x/2 \times 64 &= 16 \times 16 \\32x &= 16 \times 16 \\x &= 8\end{aligned}$$

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**Que. 21** Find the value of x.

$$40\% \text{ of } 730 \times 2.5 = x^2 + 1$$

1. 21
2. 22
3. 23
4. 27
5. 29

Correct Option - 4

**Solution:**

$$\begin{aligned}40\% \text{ of } 730 \times 2.5 &= x^2 + 1 \\(40/100) \times 730 \times 2.5 &= x^2 + 1 \\730 &= x^2 + 1 \\x^2 &= 729 \\x &= 27\end{aligned}$$

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**Que. 22** Find the value of x.

$$x^2 = 72.8 \times 5 - 852 \div 4 + \sqrt{2025}$$

1. 12
2. 13
3. 14
4. 16
5. 15

Correct Option - 3

**Solution:**

$$x^2 = 72.8 \times 5 - 852 \div 4 + \sqrt{2025}$$

$$x^2 = 364 - 213 + 45$$

$$x^2 = 196$$

$$x = 14$$

**Que. 23** Find the value of x.

$$30\% \text{ of } 5600 + 85\% \text{ of } 3600 - 463 - 26 \times 76 = x + 301$$

1. 1800
2. 2100
3. 2000
4. 2400
5. 2200

Correct Option - 3

**Solution:**

$$30\% \text{ of } 5600 + 85\% \text{ of } 3600 - 463 - 26 \times 76 = x + 301$$

$$1680 + 3060 - 463 - 1976 = x + 301$$

$$1680 + 3060 - 463 - 1976 - 301 = x$$

$$4740 - 2740 = x$$

$$x = 2000$$

**Que. 24** Find the value of x.

$$\sqrt{7225} + 45 \times 4 \div 6 = x\% \text{ of } 500$$

1. 26
2. 21
3. 24
4. 23
5. 22

Correct Option - 4

**Solution:**

$$\sqrt{7225} + 45 \times 4 \div 6 = x\% \text{ of } 500$$

$$85 + 30 = (x/100) \times 500$$

$$115 = 5x$$

$$x = 23$$

**Que. 25** Find the value of x.

$$589 + 1561 + 2989 + 3683 - 1143 = x^3 + 41 \times 160 \times 12.5\%$$

1. 15
2. 16
3. 19

4. 18

5. 17

Correct Option - 3

**Solution:**

$$589 + 1561 + 2989 + 3683 - 1143 = x^3 + 41 \times 160 \times 12.5\%$$

$$8822 - 1143 = x^3 + 41 \times 160 \times 12.5\%$$

$$7679 = x^3 + 820$$

$$x^3 = 6859$$

$$x = 19$$

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**Que. 26** Find the value of x.

$$280\% \text{ of } 190 + 119\% \text{ of } 600 - 135\% \text{ of } 580 = x^2 - 21$$

1. 25

2. 20

3. 22

4. 24

5. 26

Correct Option - 3

**Solution:**

$$280\% \text{ of } 190 + 119\% \text{ of } 600 - 135\% \text{ of } 580 = x^2 - 21$$

$$532 + 714 - 783 = x^2 - 21$$

$$463 = x^2 - 21$$

$$x^2 = 484$$

$$x = 22$$

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**Que. 27** Find the value of x.

$$64\% \text{ of } 25 + 33.33\% \text{ of } 120 = 70\% \text{ of } x$$

1. 60

2. 65

3. 80

4. 75

5. 50

Correct Option - 3

**Solution:**

$$64\% \text{ of } 25 + 33.33\% \text{ of } 120 = 70\% \text{ of } x$$

$$64 \times 25 / 100 + 1/3 \times 120 = 70 \times x / 100$$

$$16 + 40 = 7x / 10$$

$$x = 56 \times 10 / 7$$

$$x = 80$$

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**Que. 28** Find the value of x.

$$x + 276 - 150 = 137 + 264 - 331 + 211$$

1. 185
2. 125
3. 145
4. 155
5. 175

Correct Option - 4

**Solution:**

$$x + 276 - 150 = 137 + 264 - 331 + 211$$

$$x = 137 + 264 - 331 + 211 - 276 + 150$$

$$x = 762 - 607$$

$$x = 155$$

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**Que. 29** Find the value of x.

$$125 \div 5 \times 171 \div 27 \div 249 \times 9 = x \div 83$$

1. 525
2. 425
3. 475
4. 325
5. 400

Correct Option - 3

**Solution:**

$$125 \div 5 \times 171 \div 27 \div 249 \times 9 = x \div 83$$

$$25 \times (171/27) \times (1/249) \times 9 = x/83$$

$$25 \times (19/3) \times (3/83) = x/83$$

$$x = 25 \times 19$$

$$x = 475$$

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**Que. 30** Find the value of x.

$$42 \div 6 \times 3 + 5 - (8 + 7) + 123 = x$$

1. 128
2. 134
3. 126
4. 122
5. 118

**Correct Option - 2**

**Solution:**

$$42 \div 6 \times 3 + 5 - (8 + 7) + 123 = x$$

$$7 \times 3 + 5 - (15) + 123 = x$$

$$21 + 5 - 15 + 123 = x$$

$$x = 134$$

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**Que. 31** Find the approximate value of x in the following question given below

$$119.98\% \text{ of } 199.97 = x + 39.98\% \text{ of } 389.98$$

1. 52
2. 64
3. 84
4. 72
5. 60

**Correct Option - 3**

**Solution:**

$$119.98\% \text{ of } 199.97 = x + 39.98\% \text{ of } 389.98$$

$$120\% \text{ of } 200 = x + 40\% \text{ of } 390$$

$$240 = x + 156$$

$$x = 240 - 156$$

$$x = 84$$

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**Que. 32** Find the approximate value of x in the following question given below

$$\sqrt{x} = \sqrt{361.05} - 299.92 \div 14.98 + 162.01 \div 17.97$$

1. 49
2. 52
3. 64
4. 72
5. 36

**Correct Option - 3**

**Solution:**

$$\sqrt{x} = \sqrt{361.05} - 299.92 \div 14.98 + 162.01 \div 17.97$$

$$\sqrt{x} = \sqrt{361} - 300 \div 15 + 162 \div 18$$

$$\sqrt{x} = 19 - 20 + 9$$

$$\sqrt{x} = 8$$

$$x = 64$$

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**Que. 33** Find the approximate value of x in the following question given below

$$x = 39.97\% \text{ of } 44.95 - 33.33\% \text{ of } 45.02 + \sqrt{48.87}$$

1. 8
2. 12
3. 15
4. 10
5. 11

Correct Option - 4

**Solution:**

$$x = 39.97\% \text{ of } 44.95 - 33.33\% \text{ of } 45.02 + \sqrt{48.87}$$

$$x = 40\% \text{ of } 45 - 33.33\% \text{ of } 45 + \sqrt{49}$$

$$x = 18 - 15 + 7$$

$$x = 10$$

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**Que. 34** Find the approximate value of x in the following question given below

$$16.98^2 + 6.99^3 - 447.98 \div 8.02 = x^2$$

1. 34
2. 36
3. 28
4. 24
5. 32

Correct Option - 4

**Solution:**

$$16.98^2 + 6.99^3 - 447.98 \div 8.02 = x^2$$

$$17^2 + 7^3 - 448 \div 8 = x^2$$

$$289 + 343 - 56 = x^2$$

$$x^2 = 576$$

$$x = 24$$

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**Que. 35** Find the approximate value of x in the following question given below

$$(35.97 \times 12.01 \div 15.99 + \sqrt{81.18})^2 = x + 25.98^2$$

1. 520
2. 620
3. 625
4. 670
5. 640

Correct Option - 2

**Solution:**

$$(35.97 \times 12.01 \div 15.99 + \sqrt{81.18})^2 = x + 25.98^2$$

$$(36 \times 12 \div 16 + \sqrt{81})^2 = x + 26^2$$

$$(27 + 9)^2 = x + 676$$

$$1296 = x + 676$$

$$x = 620$$

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**Que. 36** Find the approximate value of x in the following question given below

$$40.05\% \text{ of } 420.21 + x = \sqrt{361.12} \times 11.01$$

1. 37
2. 39
3. 41
4. 43
5. 45

Correct Option - 3

**Solution:**

$$40.05\% \text{ of } 420.21 + x = \sqrt{361.12} \times 11.01$$

$$40/100 \text{ of } 420 + x = \sqrt{361} \times 11$$

$$168 + x = 19 \times 11$$

$$168 + x = 209$$

$$x = 209 - 168$$

$$x = 41$$

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**Que. 37** Find the approximate value of x in the following question given below

$$34.97\% \text{ of } 279.88 + \sqrt{63.97} \text{ of } 25.12\% = x - 13.27$$

1. 130
2. 145
3. 113
4. 110
5. 124

Correct Option - 3

**Solution:**

$$34.97\% \text{ of } 279.88 + \sqrt{63.97} \text{ of } 25.12\% = x - 13.27$$

$$35\% \text{ of } 280 + \sqrt{64} \text{ of } 25\% = x - 13$$

$$35/100 \text{ of } 280 + 8 \text{ of } 25/100 = x - 13$$

$$98 + 2 = x - 13$$

$$100 = x - 13$$

$$100 + 13 = x$$

$$113 = x$$

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**Que. 38** Find the approximate value of x in the following question given below

$$12.89^3 \div 13.3 + 12.2^3 \div 143.9 + (16.97^3 - 14.98^3) \div 2 = x$$

1. 825
2. 750
3. 950
4. 850
5. 775

Correct Option - 3

**Solution:**

$$12.89^3 \div 13.3 + 12.2^3 \div 143.9 + (16.97^3 - 14.98^3) \div 2 = x$$

$$13^3 \div 13 + 12^3 \div 144 + (17^3 - 15^3) \div 2 = x$$

$$169 + 12 + (4913 - 3375) / 2 = x$$

$$169 + 12 + 1538 / 2 = x$$

$$169 + 12 + 1538 / 2 = x$$

$$x = 950$$

---

**Que. 39** Find the approximate value of x in the following question given below

$$2308.96 + x - 355.96 + 28.97^2 = 343.95$$

1. -2750
2. -2650
3. -2450
4. -2350
5. -2250

Correct Option - 3

$$2308.96 + x - 355.96 + 28.97^2 = 343.95$$

$$2309 + x - 356 + 841 = 344$$

$$2309 + 841 - 356 + x = 344$$

$$3150 - 356 + x = 344$$

$$2794 + x = 344$$

$$x = -2450$$

---

**Que. 40** Find the approximate value of x in the following question given below

$$18.36^2 \div 3.99 + 12240.12 \div 11.56^2 - 8.36 \times 3.57^2 = x - 8.66^2$$

1. 110
2. 113
3. 119
4. 117
5. 111

Correct Option - 3

**Solution:**

$$18.36^2 \div 3.99 + 12240.12 \div 11.56^2 - 8.36 \times 3.57^2 = x - 8.66^2$$

$$18^2 \div 4 + 12240 \div 12^2 - 8 \times 4^2 = x - 9^2$$

$$81 + 85 - 128 = x - 81$$

$$81 + 85 - 128 + 81 = x$$

$$x = 119$$

**Que. 41** Find the approximate value of x in the following question given below

$$2141.82 \div 51.23 \times 10.55 - 4.43 \times 1343.75 \div 6.6 = x - 430.95$$

1. 115
2. 145
3. 125
4. 135
5. 155

Correct Option - 3

**Solution:**

$$2141.82 \div 51.23 \times 10.55 - 4.43 \times 1343.75 \div 6.6 = x - 430.95$$

$$2142 \div 51 \times 11 - 4 \times 1344 \div 7 = x - 431$$

$$42 \times 11 - 4 \times 192 = x - 431$$

$$462 - 768 = x - 431$$

$$x = 125$$

**Que. 42** Find the approximate value of x in the following question given below

$$(4667.90 + 3678.89 + 4738.78 - 3489.88 - 7634.89) = x$$

1. 1537
2. 1744
3. 2421
4. 1961
5. 1645

Correct Option - 4

**Solution:**

$$(4667.90 + 3678.89 + 4738.78 - 3489.88 - 7634.89) = x$$

$$(4668 + 3679 + 4739 - 3490 - 7635) = x$$

$$(13086 - 11125) = x$$

$$x = 1961$$

**Que. 43** Find the approximate value of x in the following question given below

$$[(4.67 \times 6.89) + (25.03 \times 1/4.97) + (29.98 \times 1/5.97) + 4.67^2 + x] = 200$$

1. 110
2. 125

3. 120
4. 130
5. 115

Correct Option - 4

**Solution:**

$$[(4.67 \times 6.89) + (25.03 \times 1/4.97) + (29.98 \times 1/5.97) + 4.67^2 + x] = 200$$

$$[(5 \times 7) + (25 \times 1/5) + (30 \times 1/6) + 5^2 + x] = 200$$

$$(35 + 5 + 5 + 25 + x) = 200$$

$$(70 + x) = 200$$

$$x = 200 - 70 = 130$$

---

**Que. 44** Find the approximate value of x in the following question given below

$$3/11 \times 142.72 + 8/13 \times 325.22 - 4/7 \times 118.85 = x$$

1. 124
2. 132
3. 171
4. 162
5. 144

Correct Option - 3

**Solution:**

$$3/11 \times 142.72 + 8/13 \times 325.22 - 4/7 \times 118.85 = x$$

$$3/11 \times 143 + 8/13 \times 325 - 4/7 \times 119 = x$$

$$39 + 200 - 68 = x$$

$$x = 171$$

---

**Que. 45** Find the value of x.

$$\sqrt{1521} + \sqrt{1089} - x = \sqrt[3]{4096} + \sqrt{1024}$$

1. 32
2. 28
3. 30
4. 24
5. 26

Correct Option - 4

**Solution:**

$$\sqrt{1521} + \sqrt{1089} - x = \sqrt[3]{4096} + \sqrt{1024}$$

$$39 + 33 - x = 16 + 32$$

$$72 - x = 48$$

$$x = 24$$

**Que. 46** | Find the approximate value of x in the following question given below

$$44.85\% \text{ of } 179.8 + x\% \text{ of } 149.9 = 59.79\% \text{ of } 309.91 + 59.9\% \text{ of } 99.99$$

1. 140
2. 120
3. 110
4. 112
5. 115

Correct Option - 3

**Solution:**

$$44.85\% \text{ of } 179.8 + x\% \text{ of } 149.9 = 59.79\% \text{ of } 309.91 + 59.9\% \text{ of } 99.99$$

$$45\% \text{ of } 180 + x\% \text{ of } 150 = 60\% \text{ of } 310 + 60\% \times 100$$

$$9 \times 9 + 1.5x = 186 + 60$$

$$81 + 1.5x = 246$$

$$1.5x = 165$$

$$x = 110$$

---

**Que. 47** | Find the approximate value of x in the following question given below

$$[(194.94) \times 2 \div 17.86 \times 35.94] \div x = 39.96 \times 19.84 - 9.87 \times 2$$

1. 5
2. 2
3. 3
4. 1
5. 4

Correct Option - 4

**Solution:**

$$[(194.94) \times 2 \div 17.86 \times 35.94] \div x = 39.96 \times 19.84 - 9.87 \times 2$$

$$[195 \times 2 \div 18 \times 36] \div x = 40 \times 20 - 10 \times 2$$

$$780/x = 800 - 20$$

$$780/x = 780$$

$$x = 1$$

---

**Que. 48** | Find the approximate value of x in the following question given below

$$67.89 + 11.01^2 - 77.18 + 40.05\% \text{ of } 399.95 - 65.769 = x$$

1. 219
2. 218
3. 206
4. 212
5. 28

**Correct Option - 3**

**Solution:**

$$67.89 + 11.01^2 - 77.18 + 40.05\% \text{ of } 399.95 - 65.769 = x$$

$$68 + 11^2 - 77 + 40/100 \times 400 - 66 = x$$

$$68 + 121 - 77 + 160 - 66 = x$$

$$x = 206$$

---

**Que. 49** Find the approximate value of x in the following question given below

$$11.11 \times 7.924 + 18.962 \times 6.019 - 49.69\% \text{ of } 7.791^2 = x + 3.89 \times \sqrt{24.912}$$

1. 110
2. 130
3. 150
4. 140
5. 120

**Correct Option - 3**

**Solution:**

$$11.11 \times 7.924 + 18.962 \times 6.019 - 49.69\% \text{ of } 7.791^2 = x + 3.89 \times \sqrt{24.912}$$

$$11 \times 8 + 19 \times 6 - 50/100 \times 8^2 = x + 4 \times \sqrt{25}$$

$$88 + 114 - 1/2 \times 64 = x + 4 \times 5$$

$$202 - 32 = x + 20$$

$$x = 150$$

---

**Que. 50** What will come in place of the question mark(?) in the following equation?

$$7^2 \times 2^3 \div 4^2 + ?^2 = 50$$

1. 5.05
2. 6.75
3. 4.85
4. 3.25
5. 5.75

**Correct Option - 1**

**Concept Used:**

Apply exponent rules and BODMAS for solving the expression.

**Calculation:**

$$7^2 \times 2^3 \div 4^2 + ?^2 = 50$$

$$49 \times 8 \div 16 + ?^2 = 50$$

$$24.5 + ?^2 = 50$$

$$?^2 = 50 - 24.5$$

$$?^2 = 25.5$$

$$\therefore ? = \sqrt{25.5} \approx 5.05$$

