























# SIMPLIFICATION

- ❑ SQUARE OF NUMBERS FROM 1 TO 1000
- ❑ SQUARE ROOT OF PERFECT SQUARE NUMBERS
- ❑ SQUARE ROOT OF IMPERFECT SQUARE NUMBERS
- ❑ CUBE OF NUMBERS FROM 1 TO 100
- ❑ CUBE ROOT OF PERFECT CUBE NUMBERS
- ❑ CUBE ROOT OF NON-PERFECT CUBE NUMBERS
- ❑ SURD AND INDICES
- ❑ QUESTION OF SIMPLIFICATION

# SQUARE ROOT OF PERFECT SQUARE NUMBERS

$$\sqrt{21316}$$



$$\sqrt{39204}$$

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$$\sqrt{17956}$$

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$$\sqrt{54756}$$

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# IMPERFECT SQUARE

$$\sqrt{110226}$$





$$\sqrt{131768}$$

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$\sqrt{23105}$



# CUBE ROOT OF PERFECT CUBE NUMBERS

$$\sqrt[3]{195112}$$

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$$\sqrt[3]{238328}$$

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$$\sqrt[3]{474552}$$



$$\sqrt[3]{636056}$$

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# CUBE ROOT OF NON-PERFECT CUBE NUMBER

$$\sqrt[3]{389015}$$

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$$\sqrt[3]{592700}$$



$$\sqrt[3]{658505}$$

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# USES OF PERCENTAGE

**Q1.  $26\%$  of  $84 + 35\%$  of  $180 - 12\%$  of  $150$**

**Q2.  $112.5\%$  of  $4872 + 116.67\%$  of  $3606 - 33\%$  of  $44$**

**Q3.  $525\%$  of  $584 + 183.33\%$  of  $372$**

**Q4.  $87.5\%$  of  $864 - 37.5\%$  of  $64 + 33.33\%$  of  $342$**

**Q5.  $287.5\%$  of  $720 - 111.11\%$  of  $8172 + 71\%$  of  $128$**

$$\frac{5^2 \times 14 + 1450}{5} = 1998 \div ?$$



$$[(15.5 \times 28) \div 16 - 1230 \div 240] = ? \times 5$$



$$216^{1/3} \times 26^4 \times 39^4 \div [12^4 \times 3 \times 2^{-3}] = 13^?$$





$$(\text{?})^2 + (65)^2 = (160)^2 - (90)^2 - 7191$$



$$\frac{9}{13} \text{ of } 221 + 1\frac{4}{9} \text{ of } 378 = 241 + ?$$



$$(4444 \div 40) + (645 \div 25) + (3991 \div 26) = ?$$



$$37.5 \div \left[ \frac{1}{2} \text{ of } (24 + 33) - 13 \frac{1}{2} \right] = ?$$



$$(35)^2 \div \sqrt[3]{125} + (25)^2 \div 125 = ?$$



$$7^{2.3} \times 49^{4.7} \times 63^{3.4} \times 81^{5.85} = 63^?$$



What approximate value should come in place of question mark (?) in the following questions?

$$116\frac{2}{3}\% \text{ of } 432 - 18.2^2 = \frac{?}{1.5^2}$$

1. 422
2. 511
3. 389
4. 309
5. 256





What approximate value should come in place of question mark (?) in the following questions?

$$172\% \text{ of } 321 - ?\% \text{ of } 16^2 = \frac{8.2 \times 7.5}{1.2^2}$$

1. 256
2. 199
3. 144
4. 312
5. 422



What approximate value should come in place of question mark (?) in the following questions?

$$\frac{\sqrt{855} \times \sqrt{755}}{\sqrt{411} + \sqrt{575}} = 280\% \text{ of ?}$$

1. 10
2. 4
3. 6
4. 12
5. 15



What approximate value should come in place of question mark (?) in the following questions?

$$\frac{112\% \text{ of } 245 + 211\% \text{ of } 311}{245\% \text{ of } 525 - 199\% \text{ of } 322} = ?^2$$

1. 2.4
2. 1.2
3. 3.6
4. 6
5. 4.8

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What approximate value should come in place of question mark (?) in the following questions?

$$\frac{73.2^2 - 18.5^2 + 22.1^2}{111.2^2 - 85.8^2} = 33\frac{1}{3}\% \text{ of ?}$$

1. 3
2. 5
3. 1
4. 7
5. 13



What will come in place of question mark (?) in the following questions?

$$5^{8.9} \times 25^{7.2} \div 125^{4.6} = 5^?$$

1. 10.5
2. 7.5
3. 12.5
4. 8.5
5. None of these



$$3\frac{3}{8} \times 4 \times \frac{4}{9} \div 3\frac{4}{7} - 3\frac{3}{5} = ?$$

1.  $-13/5$
2.  $-48/25$
3.  $13/5$
4.  $48/25$
5. None of these

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What approximate value will come at the place of question mark (?) in the following question?

$$\sqrt{?} + \sqrt{1335} \times 24 - 13.96 = 895$$

1. 1855
2. 2025
3. 1950
4. 2125
5. 1600



What value will come at the place of question mark (?) in the following question?

$$\sqrt{3364} - 1164 \div 12 + \sqrt{(42\% \text{ of } 1050)} = ?$$

1. -11
2. -14
3. -9
4. -25
5. -18





What value will come at the place of question mark (?) in the following question?

$$\sqrt{3364} - 1164 \div 12 + \sqrt{(42\% \text{ of } 1050)} = ?$$

1. -11
2. -14
3. -9
4. -25
5. -18



What value will come at the place of question mark (?) in the following question?

$$45\% \text{ of } 360 + 1008 \div 12 - 1248 \div 13 = ?$$

1. 143
2. 168
3. 176
4. 150
5. 158



What approximate value should come in place of question mark (?) in the following questions?

$$\frac{73.2^2 - 18.5^2 + 22.1^2}{111.2^2 - 85.8^2} = 33\frac{1}{3}\% \text{ of ?}$$

1. 3
2. 5
3. 1
4. 7
5. 13



What will come in place of question mark (?) in the following questions?

$$5^{8.9} \times 25^{7.2} \div 125^{4.6} = 5^?$$

1. 10.5
2. 7.5
3. 12.5
4. 8.5
5. None of these



What approximate value will come at the place of question mark (?) in the following question?

$$(15.33)^2 - (12.94)^2 + (22.06)^2 - 35.65 = ?$$

1. 511
2. 504
3. 631
4. 585
5. 705



What approximate value will come at the place of question mark (?) in the following question?

$$? \% \text{ of } 4860 - 459.08 + 26.06\% \text{ of } 1350 = 2565.299$$

1. 55
2. 35
3. 65
4. 60
5. 80



What value will come at the place of question mark (?) in the following question?

$$35\frac{5}{7}\% \text{ of } 6510 + 77\frac{7}{9}\% \text{ of } 5886 = ?\% \text{ of } 6126 + 50\% \text{ of } 5638$$

1. 49.5
2. 58.35
3. 54
4. 66.66
5. None of these



What approximate value will come at the place of question mark (?) in the following question?

$$(23)^2 - 24.069 \times 15.992 + 15.99\% \text{ of } 550 = ?$$

1. 409
2. 276
3. 233
4. 308
5. 205





What should come at the place of question mark (?) in the following questions?

$$44 \times 92 + 73 \times 88 = ?^2 - 137$$

1. 113
2. 107
3. 103
4. 117
5. None of these



What should come at the place of question mark (?) in the following questions?

$$55^2 - 33^2 = 250\% \text{ of ?}$$

1. 483.8
2. 492.4
3. 513.2
4. 774.4
5. None of these



What should come at the place of question mark (?) in the following questions?

$$192\% \text{ of } 520 + 124\% \text{ of } 940 = ?$$

1. 2143
2. 2250
3. 2090
4. 2314
5. None of these



What should come at the place of question mark (?) in the following questions?

$$12\frac{3}{4} \times 5\frac{1}{2} - 4\frac{1}{2} \times 8\frac{3}{4} = ?$$

1.  $69\frac{1}{8}$
2. 64
3. 69
4.  $64\frac{1}{8}$
5. None of these



What should come at the place of question mark (?) in the following questions?

$$12.4 \times 18.2 + 35.5 + 16.4 - 19.8 \times 15.5 = ?$$

1. 512.88
2. 484.48
3. 4301.8
4. 500.98
5. None of these



What will come in place of question mark (?) in the following questions?

$$16.61 + 61.61 - 166.1 + 616.6 = ?$$

1. 528.20
2. 528.27
3. 528.30
4. 528.32
5. None of these



What will come in place of question mark (?) in the following questions?

$$? \div 69 \times 23 - 540 = 1714$$

1. 6672
2. 6726
3. 6627
4. 6762
5. None of these



What will come in place of question mark (?) in the following questions?

$$\sqrt{(70^2 - ?)^2} \times 12.5 = 850 \times 72$$

1. 2
2. 4
3. 6
4. 4896
5. None of these





What will come in place of question mark (?) in the following questions?

$$? - 425.18 - 172.41 = 960.83 - 682$$

1. 876.42
2. 867.24
3. 867.42
4. 876.24
5. None of these



What will come in place of question mark (?) in the following questions?

$$24.7 \times 3.1 - 7.1 \times 5.4 - ? = 6.98$$

1. 3.125
2. 31.25
3. 312.5
4. 31.5
5. None of these



What will come in place of question mark (?) in the following questions?

$$\frac{1}{13} \text{ of } \frac{3}{5} \text{ of } \frac{1}{11} \text{ of } \frac{1}{7} \text{ of } 7202195 = ?$$

1. 4227
2. 4417
3. 4317
4. 4821
5. 4233

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1. 3

2. 4

3. 2

4. 5

5. None of these



What will come in place of question mark (?) in the following questions?

$$254 \times ? + 84206 = 137177.58 + 368.42$$

1. 245
2. 244
3. 256
4. 258
5. None of these



$$211000 \div 6 \div 7 \div 6 = ? \times 5$$

1. 138
2. 126
3. 134
4. 124
5. None of these



What should come at the place of question mark (?) in the following questions?

$$73\% \text{ of } 143 + 572\% \text{ of } 84 = ?\% \text{ of } 286$$

1. 211.25
2. 191.75
3. 214.5
4. 204.5
5. None of these



What should come at the place of question mark (?) in the following questions?

$$\frac{1}{256^3} \div 64^{2 \times ?} = \frac{1}{16^3}$$

1. -2
2. 2
3. -3
4. 3
5. None of these

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What should come at the place of question mark (?) in the following questions?

$$12.4 \times 18.2 + 35.5 + 16.4 - 19.8 \times 15.5 = ?$$

1. 512.88
2. 484.48
3. 4301.8
4. 500.98
5. None of these



$$12\frac{3}{4} \times 5\frac{1}{2} - 4\frac{1}{2} \times 8\frac{3}{4} = ?$$

1.  $69\frac{1}{8}$
2. 64
3. 69
4.  $64\frac{1}{8}$
5. None of these



What approximate value will come in place of question mark (?) in the following questions?

निम्नलिखित प्रश्न में प्रश्नवाचक चिन्ह (?) के स्थान पर लगभग क्या मान आएगा ?

$$\frac{158\% \text{ of } 312 + 172\% \text{ of } 927}{118\% \text{ of } 652} = ?$$

1. 11

2. 6

3. 3

4. 8

5. 15

What approximate value will come in place of question mark (?) in the following questions?

निम्नलिखित प्रश्न में प्रश्नवाचक चिन्ह (?) के स्थान पर लगभग क्या मान आएगा ?

**IBPS PO PRE 2017**

$$(184.002 - 29 \div 5) \times 29.997 = ?$$



**1. 5400**

**2. 3800**

**3. 4100**

**4. 1100**

**5. 1500**

What approximate value will come in place of question mark (?) in the following questions?

निम्नलिखित प्रश्न में प्रश्नवाचक चिन्ह (?) के स्थान पर लगभग क्या मान आएगा ?

**IBPS PO PRE 2017**

$$53.01 - 345.02 \div 22.99 = 2 \times ?$$

**1. 20**

**2. 60**

**3. 29**

**4. 11**

**5. 15**



What approximate value will come in place of question mark (?) in the following questions?

निम्नलिखित प्रश्न में प्रश्नवाचक चिन्ह (?) के स्थान पर लगभग क्या मान आएगा ?

**IBPS PO PRE 2017**

$$(\sqrt{80.997} - \sqrt{25.001}) \times \sqrt{120.98} + \sqrt{16.02} = ?$$



**1. 48**

**2. 60**

**3. 31**

**4. 11**

**5. 15**

What approximate value will come in place of question mark (?) in the following questions?

निम्नलिखित प्रश्न में प्रश्नवाचक चिन्ह (?) के स्थान पर लगभग क्या मान आएगा ?

$$142.8\% \text{ of } 240 + 312.5\% \text{ of } 85 = ?^2 + 24^2$$



1. 12

2. 8

3. 2

4. 4

5. 6

What approximate value will come in place of question mark (?) in the following questions?

निम्नलिखित प्रश्न में प्रश्नवाचक चिन्ह (?) के स्थान पर लगभग क्या मान आएगा ?

$$49.6 \times 5.08 + 485.987 + 42.6 \div 5.3 = ?$$



1. 740

2. 780

3. 820

4. 660

5. 800



What approximate value will come in place of question mark (?) in the following questions?

निम्नलिखित प्रश्न में प्रश्नवाचक चिन्ह (?) के स्थान पर लगभग क्या मान आएगा ?

$$\sqrt{6378} \times \sqrt{3330} \div \sqrt{360} = ?$$

1. 110

2. 240

3. 340

4. 280

5. 290



What approximate value will come in place of question mark (?) in the following questions?

निम्नलिखित प्रश्न में प्रश्नवाचक चिन्ह (?) के स्थान पर लगभग क्या मान आएगा ?

$$\frac{18524}{12} + \frac{58461}{15} = \frac{74235}{28} + ?$$



1. 2800
2. 2600
3. 2000
4. 1800
5. 3200

What approximate value will come in place of question mark (?) in the following questions?

निम्नलिखित प्रश्न में प्रश्नवाचक चिन्ह (?) के स्थान पर लगभग क्या मान आएगा ?

$$\frac{18524}{12} + \frac{58461}{15} = \frac{74235}{28} + ?$$



1. 2800
2. 2600
3. 2000
4. 1800
5. 3200

What approximate value will come in place of question mark (?) in the following questions?

निम्नलिखित प्रश्न में प्रश्नवाचक चिन्ह (?) के स्थान पर लगभग क्या मान आएगा ?

$$\sqrt[3]{29790} + \sqrt{14640} = ?$$



1. 118

2. 152

3. 130

4. 122

5. 165

What approximate value will come in place of question mark (?) in the following questions?

निम्नलिखित प्रश्न में प्रश्नवाचक चिन्ह (?) के स्थान पर लगभग क्या मान आएगा ?

$$\sqrt{624.9995} + (4.9989)^2 = ? \div \frac{1}{4.9900864}$$

1. 10

2. 20

3. 40

4. 70

5. 60



What approximate value will come in place of question mark (?) in the following questions?

निम्नलिखित प्रश्न में प्रश्नवाचक चिन्ह (?) के स्थान पर लगभग क्या मान आएगा ?

$$63.9872 \times 9449.8780 \div 243.0034 = (?)^2$$



1. 50

2. 40

3. 70

4. 120

5. 90

What approximate value will come in place of question mark (?) in the following questions?

निम्नलिखित प्रश्न में प्रश्नवाचक चिन्ह (?) के स्थान पर लगभग क्या मान आएगा ?

$$a^8 \times \sqrt[7]{a^3} \div a^{\frac{5}{4}} = a^?$$



1. 7

2. 5

3. 9

4. 11

5. 15















In a company 55% of workers drink tea, 45% drink coffee and 40% drink. Milk 20% of workers drink tea and milk both, 20% drink coffee and milk both, 25% of workers tea and coffee both. 15% of workers drink all three beverages. Find the percentage of workers who do not like any of three beverages?













