



## Simplification Questions with detailed Solutions PDF

Simplification questions are regularly asked in competitive exams. These questions carry a weightage of 1-2 questions (2-4 marks) in SSC exams and 5-15 questions(10-15 marks) in banking exams. To get a good rank in competitive exams, you should have a great practice of a variety of simplification as they are scoring questions.

Here are some tips for solving Simplification questions: Clear the basic concepts of BODMAS, percentage, power and exponents, Memorise squares, cubes and tables, Learn short tricks, get a good hold on percentages. Practice as much as you can on improving your calculation speed and accuracy.

So, we have attached 10 questions of Simplification for you to practice with. You should aim to solve these questions in less than half a minute for each.

## Practice Questions on Simplification

You can also download the Simplification questions and answers pdf. Just click on the **Download PDF** button. So let's start with the very first question.

**Directions(Q1-Q10):** What value should come in place of question mark (?) in the following questions?

**Q:1**  $[(\sqrt{2401} + \sqrt{625}) - (29 + 5)] \div 4 = ?^{1/2}$

1. 125
2. 169
3. 144
4. 100
5. 121

(**Difficulty: 3, Estimated Time: 20 Seconds**) Don't forget using BODMAS....

**Q:2**  $\sqrt{1369} \div 4^3 \times 176 = [?^3 + (457.68 - 393.68)] \div 4$

1. 49
2. 29
3. 7
4. 14
5. 23

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(Difficulty: 4, Estimated Time: 25 Seconds) Square and cube roots questions are very common...

**Q:3**  $(287.65 - 111.35 + 158.30) = ?^{1/3} \times 1673$

1. 0.08
2. 0.004
3. 0.8
4. 0.002
5. None of these

(Difficulty: 3, Estimated Time: 20 Seconds) Try to complete most of the calculation in your mind!

**Q:4**  $221 \div 23.6 \times 94.4 \div 169 \div 17 = ? \div 91$

1. 15
2. 28
3. 30
4. 45
5. 43

(Difficulty: 3, Estimated Time: 20 Seconds) Should we increase the level?

**Q:5**  $(3.4)^2 - (1.2)^2 = ?^{1/2} - 2.88$

1. 100
2. 225
3. 144
4. 169
5. 121

(Difficulty: 3, Estimated Time: 20 Seconds) We're halfway through. Have you got all your questions correct so far?

**Q:6**  $72.9 \times 6.561 \times 10^4 \div 81 = 9^{3+?} \times \sqrt{81}$

1. 1
2. 2



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3. 3

4. 4

5. 6

(Difficulty: 2, Estimated Time: 15 Seconds) This was an easy one....

Q:7  $(474552)^{1/3} - (6084)^{1/2} + 68 - 7.8 = ?$

1. 68.2

2. 60.2

3. 64.9

4. 70.2

5. 82.4

(Difficulty: 3, Estimated Time: 20 Seconds) Be prepared for such questions in exam!

Q:8  $\sqrt{294} + \sqrt{726} + \sqrt{1176} + \sqrt{486} - \sqrt{600} = ?$

1.  $32\sqrt{6}$

2.  $34\sqrt{6}$

3.  $31\sqrt{6}$

4.  $31\sqrt{4}$

5.  $35\sqrt{4}$

(Difficulty: 2, Estimated Time: 15 Seconds) Try converting percentages to fractions to fasten the calculation

Q:9  $(531441)^{1/3} \div 9 \times (\sqrt{4096} / 8) + (\sqrt{6561} / 9) - 16 = ?$

1. 62

2. 65

3. 64

4. 63

5. 61

(Difficulty: 3, Estimated Time: 20 Seconds) Yes, You know how to solve such questions!

**Simplification Questions with detailed Solutions PDF****Q:10**  $16^{4.2} \times 256^{2.1} \times 14^2 \times 196^{3.2} = ?$ 

1.  $(224)^{8.4}$
2.  $(326)^{7.4}$
3.  $(324)^{8.4}$
4.  $(340)^{7.4}$
5.  $(240)^{8.4}$

**(Difficulty: 2, Estimated Time: 15 Seconds)** Did you guess them all correctly?

## Answer Key

Let's check out your score in this test.

1. (4)	2. (3)	3. (5)	4. (2)	5. (4)
6. (1)	7. (2)	8. (3)	9. (2)	10. (1)

Comment below your score, considering each question has 1 mark only. If you scored 8 to 10, congratulations! You are one step closer to selection. If you have scored 5 to 8 marks, then you are doing well, keep it up. If you have scored less than 5 marks then you need to work a little harder on this subject. But don't worry, we are here to help you master the subject.

Let's check the answers and solutions and try to find out what went wrong.

## Answers and Solutions

**Q:1** The correct answer is **option 4** i.e. **100**

$$\begin{aligned} \{(2401 + 625) - (29 + 5) / 4\} &= ?^{1/2} \\ \Rightarrow \{(49 + 25) - (34) / 4\} &= ?^{1/2} \\ \Rightarrow \{(74 - 34) / 4\} &= ?^{1/2} \\ \Rightarrow (40/4) &= ?^{1/2} \\ \Rightarrow 10 &= ?^{1/2} \\ \Rightarrow ? &= 100 \end{aligned}$$

**Q:2** The correct answer is **option 3** i.e. **7**

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$$\sqrt{1369 \div 4^3 \times 176} = [?^3 + (457.68 - 393.68)] \div 4$$

$$\Rightarrow (37/64) \times 176 = \{(?^3 + 64) / 4\}$$

$$\Rightarrow 37 \times 11 \times 4 \div 4 = ?^3 + 64$$

$$\Rightarrow ?^3 = 407 - 64$$

$$\Rightarrow ?^3 = 343$$

$$\Rightarrow ? = 7$$

**Q:3** The correct answer is **option 5** i.e. **none of these**

$$(287.65 - 111.35 + 158.30) = ?^{1/3} \times 1673$$

$$\Rightarrow (445.95 - 111.35) = ?^{1/3} \times 1673$$

$$\Rightarrow (334.60) = ?^{1/3} \times 1673$$

$$\Rightarrow ?^{1/3} = (334.60 / 1673)$$

$$\Rightarrow ?^{1/3} = (2/10)$$

$$\Rightarrow ?^{1/3} = 0.2$$

$$\Rightarrow ? = 0.008$$

**Q:4** The correct answer is **option 2** i.e. **28**

$$221 \div 23.6 \times 94.4 \div 169 \div 17 = ? \div 91$$

$$\Rightarrow (221/23.6) \times \{94.4 / (169 \times 17)\} \times 91 = ?$$

$$\Rightarrow (4/13) \times 91 = ?$$

$$\Rightarrow ? = 28$$

**Q:5** The correct answer is **option 4** i.e. **169**

$$(3.4)^2 - (1.2)^2 = ?^{1/2} - 2.88$$

$$\Rightarrow (3.4 + 1.2) (3.4 - 1.2) = ?^{1/2} - 2.88$$

$$\Rightarrow 4.6 \times 2.2 = ?^{1/2} - 2.88$$

$$\Rightarrow ?^{1/2} = 10.12 + 2.88$$

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$$\Rightarrow ?^{1/2} = 13$$

$$\Rightarrow ? = 169$$

**Q:6** The correct answer is **option 1** i.e. **1**

$$72.9 \times 6.561 \times 10^4 \div 81 = 9^{3+?} \times \sqrt{81}$$

$$\Rightarrow 729 \times 6561 \div 81 = 9^{3+?} \times 9$$

$$\Rightarrow 9^{3+?} = 9^3 \times 81 \div 9$$

$$\Rightarrow 9^{3+?} = 9^{3+2-1}$$

$$\Rightarrow 3 + ? = 4$$

$$\Rightarrow ? = 1$$

**Q:7** The correct answer is **option 2** i.e. **60.2**

$$? = (474552)^{1/3} - (6084)^{1/2} + 68 - 7.8$$

$$\Rightarrow ? = (78^3)^{1/3} - (78^2)^{1/2} + 68 - 7.8$$

$$\Rightarrow ? = 78 - 78 + 68 - 7.8 = 60.2$$

**Q:8** The correct answer is **option 3** i.e. **31√6**

$$\Rightarrow ? = \sqrt{294} + \sqrt{726} + \sqrt{1176} + \sqrt{486} - \sqrt{600}$$

$$\Rightarrow ? = \sqrt{(6 \times 49)} + \sqrt{(6 \times 121)} + \sqrt{(6 \times 196)} + \sqrt{(6 \times 81)} - \sqrt{(6 \times 100)}$$

$$\Rightarrow ? = 7\sqrt{6} + 11\sqrt{6} + 14\sqrt{6} + 9\sqrt{6} - 10\sqrt{6}$$

$$\Rightarrow ? = \sqrt{6} (7 + 11 + 14 + 9 - 10) = 31\sqrt{6}$$

**Q:9** The correct answer is **option 2** i.e. **65**

$$(531441)^{1/3} \div 9 \times (\sqrt{4096} / 8) + (\sqrt{6561} / 9) - 16 = ?$$

$$\Rightarrow ? = 81 \div 9 \times (64/8) + (81/9) - 16$$

$$\Rightarrow ? = 9 \times 8 + 9 - 16 = 65$$



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**Q:10** The correct answer is **option 1** i.e.  $(224)^{8.4}$

$$? = 16^{4.2} \times 256^{2.1} \times 14^2 \times 196^{3.2}$$

$$\Rightarrow ? = 16^{4.2} \times 16^{(2 \times 2.1)} \times 14^2 \times 14^{(2 \times 3.2)}$$

$$\Rightarrow ? = 16^{4.2+4.2} \times 14^{2+6.4}$$

$$\Rightarrow ? = 16^{8.4} \times 14^{8.4} = (16 \times 14)^{8.4} = 224^{8.4}$$

So, this is it for today. We will meet again with another new topic. Till then, you can practice the questions again by downloading the PDF of Simplification.

