



## Approximation Questions PDF with Detailed Solutions

Approximation questions are a major type of questions asked in competitive exams. These questions carry a weightage of 1-2 questions (2-4 marks) in SSC exams and 5-10 questions in bank exams. To get a good rank in competitive exams, it is important to know how to solve approximation questions in a speedy way.

Here are some tips for solving Approximation questions: Identify the important digits, focus on the most significant digits, use rounding off rules, after converting all the approximate values into integers, solve them using basic simplification rules. Remember in bank exams they can go up to 10 questions in a set, hence maintaining speed and accuracy while solving these questions will award you some major marks.

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

## Practice Questions on Approximation

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

**Direction (1 - 10):** What approximate value will come in place of question mark (?) in the following question?

**Q:1**  $32.16^2 \times 6.86^2 - 126.23^2 = ? \times 4.98^2$

1. 1271
2. 1475
3. 1732
4. 1372
5. 1236

(Difficulty: 3, Estimated Time: 20 Seconds) Try converting percentages to fractions..

**Q:2**  $21.11^2 + 14.14^2 - 11.09^2 - 11.97^2 = ?$

1. 382
2. 482
3. 372
4. 362
5. 462



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(Difficulty: 2, Estimated Time: 15 Seconds) This was a cake walk....

**Q:3**  $17.09/35.26 + 12.26/48.84 + 8.17/70.12 = ?$

1. 209/490
2. 363/490
3. 271/490
4. 207/245
5. 209/245

(Difficulty: 3, Estimated Time: 20 Seconds) A similar one...

**Q:4**  $19446.06 \text{ of } 7.99/463.33 + 15.98[35.22 \text{ of } 8.08/6.99 - (56.99 - 228.08/4.33)] = ?$

1. 855
2. 676
3. 976
4. 792
5. 886

(Difficulty: 3, Estimated Time: 20 Seconds) Do you remember squares up to 50? Yes they save your precious seconds

**Q:5**  $15215.05/894.98 + 25.44[73.25 - (5103.33/80.99 + 692.99/77.07)] = ?$

1. 55
2. 42
3. 62
4. 32
5. 46

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

**Q:6**  $? + 765.99 - 526.01 = 25.01 \times 23.98$

1. 106
2. 244



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3. 452

4. 360

5. 568

(Difficulty: 3, Estimated Time: 20 Seconds) Remember the rule of BODMAS...

Q:7  ${}^3\sqrt{(172.8\% \text{ of } 999.98) + 60.001\% \text{ of } 149.98} = ?^2 - \sqrt{(1764.001)}$

1. 12

2. 38

3. 56

4. 42

5. 76

(Difficulty: 2, Estimated Time: 15 Seconds) The time is ticking. Hurry up!

Q:8  $139.98\% \text{ of } 349.99 = ?^2 - (14.98)^3 \div 24.98$

1. 35

2. 5

3. 25

4. 50

5. 65

(Difficulty: 3, Estimated Time: 20 Seconds) Don't make mistakes while rounding off...

Q:9  $\sqrt{574} \times 4.95 \times 6.05 + \sqrt{677} \times 2.123 \times 4.7598 - \sqrt{362} \times 1.1254 \times 5.129 = ?$

1. 885

2. 625

3. 1036

4. 415

5. 1225

(Difficulty: 2, Estimated Time: 15 Seconds) Another easy one! Let's score more...

## Approximation Questions PDF with Detailed Solutions

**Q:10** 13664.04 of 2.99/976.06 + 5954.04 of 5.05/458.08 - 72284 of 3.03/4252.05 = ?

1. 52
2. 41
3. 63
4. 56
5. 82

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

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. **1372**.

$$32.16^2 \times 6.86^2 - 126.23^2 = x \times 4.98^2$$

$$32^2 \times 7^2 - 126^2 = x \times 5^2$$

$$\Rightarrow 32^2 \times 7^2 - (18 \times 7)^2 = x \times 5^2$$

$$\Rightarrow 32^2 \times 7^2 - 18^2 \times 7^2 = x \times 5^2$$

$$\Rightarrow 7^2 \times (32^2 - 18^2) = x \times 5^2$$

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$$\Rightarrow 7^2 \times (50) \times (14) = x \times 5^2$$

$$\Rightarrow \{49 \times 50 \times 14\}/25 = x$$

$$\Rightarrow 49 \times 2 \times 14 = x$$

$$\Rightarrow x = 1372$$

**Q:2** The correct answer is **Option 3** i.e. **372**.

$$21.11^2 + 14.14^2 - 11.09^2 - 11.97^2 = ?$$

$$21^2 + 14^2 - 11^2 - 12^2 = ?$$

$$= (21^2 - 11^2) + (14^2 - 12^2)$$

$$\text{We know that, } a^2 - b^2 = (a + b)(a - b)$$

$$\Rightarrow (21^2 - 11^2) + (14^2 - 12^2) = ?$$

$$\Rightarrow (21 + 11)(21 - 11) + (14 + 12)(14 - 12) = ?$$

$$\Rightarrow 32 \times 10 + 26 \times 2 = ?$$

$$\Rightarrow 320 + 52 = ?$$

$$\Rightarrow ? = 372$$

**Q:3** The correct answer is **Option 4** i.e. **207/245**.

$$17.09/35.26 + 12.26/48.84 + 8.17/70.12 = ?$$

$$\Rightarrow 17/35 + 12/49 + 8/70$$

$$\Rightarrow \{(14 \times 17) + (10 \times 12) + (7 \times 8)\}/490$$

$$\Rightarrow (238 + 120 + 56)/490 = 414/490$$

$$\Rightarrow 17/35 + 12/49 + 8/70 = 207/245$$

**Q:4** The correct answer is **Option 3** i.e. **976**

We have to find the approximate value of the question mark (?)

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So

$$19446.06 \text{ of } 7.99/463.33 + 15.98[35.22 \text{ of } 8.08/6.99 - (56.99 - 228.08/4.33)] = ?$$

Can be written

$$\Rightarrow 19446 \text{ of } 8/463 + 16[35 \text{ of } 8/7 - (57 - 228/4)] = ?$$

Now using BODMAS rule

$$\Rightarrow 19446 \times 8/463 + 16[35 \times 8/7 - (57 - 57)] = ?$$

$$\Rightarrow 19446 \times 8/463 + 16[35 \times 8/7] = ?$$

$$\Rightarrow 42 \times 8 + 16[40] = ?$$

$$\Rightarrow 336 + 16[40] = ?$$

$$\Rightarrow 336 + 640 = ?$$

$$\text{Hence} \Rightarrow ? = 976$$

**Q:5** The correct answer is **Option 2** i.e. **42**.

$$15215.05/894.98 + 25.44 [73.25 - (5103.33/80.99 + 692.99/77.07)] = ?$$

can be written

$$\Rightarrow 15215/895 + 25 [73 - (5103/81 + 693/77)] = ?$$

$$\Rightarrow 15215/895 + 25 [73 - (63 + 9)] = ?$$

$$\Rightarrow 15215/895 + 25 [73 - (72)] = ?$$

$$\Rightarrow 15215/895 + 25[1] = ?$$

$$\Rightarrow 17 + 25 = ?$$

$$? = 4$$

**Q:6** The correct answer is **option 4** i.e. **360**.

$$\Rightarrow ? + 765.99 - 526.01 = 25.01 \times 23.98$$

Taking the approximate values;

$$\Rightarrow ? + 766 - 526 = 25 \times 24$$

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$$\Rightarrow ? + 240 = 600$$

$$\Rightarrow ? = 600 - 240$$

$$\Rightarrow ? = 360$$

**Q:7** The correct answer is **option 1** i.e. **12**.

$$\sqrt[3]{(172.8\% \text{ of } 999.98) + 60.001\% \text{ of } 149.98} = ?^2 - \sqrt{(1764.001)}$$

Taking approximate values,

$$\sqrt[3]{(172.8\% \text{ of } 1000) + 60\% \text{ of } 150} = ?^2 - \sqrt{(1764)}$$

$$?^2 - \sqrt{1764} = \sqrt[3]{1728} + 60\% \times 150$$

$$?^2 - 42 = 12 + 90$$

$$?^2 = 102 + 42$$

$$?^2 = 144$$

$$? = \sqrt{144}$$

$$? = 12$$

**Q:8** The correct answer is **option 3** i.e. **25**.

$$139.98\% \text{ of } 349.99 = ?^2 - (14.98)^3 \div 24.98$$

Taking approximate values,

$$140\% \times 350 = ?^2 - (15)^3 \div 25$$

$$?^2 - 3375 \div 25 = 14 \times 35$$

$$?^2 - 135 = 490$$

$$?^2 = 490 + 135 = 625$$

$$? = \sqrt{625}$$

$$? = 25$$

**Q:9** The correct answer is **option 1** i.e. **885**.



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$$\sqrt{574} \times 4.95 \times 6.05 + \sqrt{677} \times 2.123 \times 4.7598 - \sqrt{362} \times 1.1254 \times 5.129 = ?$$

Taking approximate values,

$$? = \sqrt{576} \times 5 \times 6 + \sqrt{676} \times 2 \times 5 - \sqrt{361} \times 1 \times 5$$

$$? = 24 \times 30 + 26 \times 10 - 19 \times 5$$

$$? = 720 + 260 - 95$$

$$? = 885$$

**Q:10** The correct answer is **Option 4** i.e. **56**.

$$13664.04 \text{ of } 2.99/976.06 + 5954.04 \text{ of } 5.05/458.08 - 72284 \text{ of } 3.03/4252.05 = ?$$

$$\Rightarrow 13664 \text{ of } 3/976 + 5954 \text{ of } 5/458 - 72284 \text{ of } 3/4252 = ?$$

$$\Rightarrow 13664 \times 3/976 + 5954 \times 5/458 - 72284 \times 3/4252 = ?$$

$$\Rightarrow 14 \times 3 + 13 \times 5 - 17 \times 3 = ?$$

$$\Rightarrow 42 + 65 - 51 = ?$$

$$\Rightarrow 42 + 14 = ?$$

$$\Rightarrow ? = 56$$

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 Approximation.