

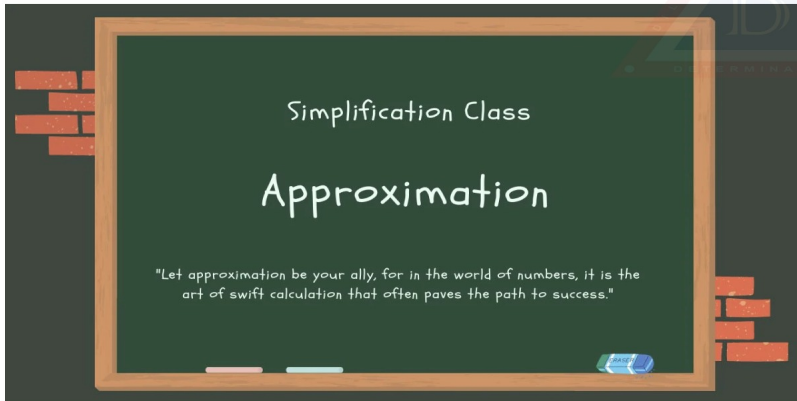
## How to tackle Approximation Questions For Bank Exams

In the realm of Bank Exams, the ability to effectively tackle approximation questions is a game-changer. These questions demand a unique approach, blending mathematical prowess with strategic thinking. This guide is your compass to navigate the world of approximation in Bank Exams. It's designed to equip you with a comprehensive understanding of approximation techniques, empowering you to save time without compromising accuracy.

With expert tips, real-life examples, and a wealth of practice questions, you'll sharpen your problem-solving skills and enhance your confidence when facing approximation queries during the exam. Whether you're a seasoned exam-taker or just embarking on your banking career, this resource will prove invaluable in your quest for success. Get ready to conquer Bank Exams with precision and efficiency, and unlock the door to a bright future in the banking sector.

## Approximation for Bank exams

We use approximation in our daily life every day, we all know how to do it, for example we say 1000 for 999, what we do we simply ignore a comparably small portion. In mathematical expressions which include division and multiplication of decimal values of large numbers we are stuck. It becomes quite complex to solve these problems, so for solving these we use approximation. We just Round-off the numbers.



When we approximate the final result obtained is not equal to the exact result, but it is very close to the exact result.

Let's try an example.

E.g. ? =  $32.01 + 128.01 \times 1023.99 + 7.99$

Sol: Solving by **BODMAS** rule, as learned earlier in [Simplification](#) Blog,

$$\Rightarrow ? = 32.01 + 128.01 \times 1023.99 + 7.99$$

$$\Rightarrow ? = 32.01 + 131080.9599 + 7.99$$

$$\Rightarrow ? = 131120.9599 \text{ (Ans.)}$$

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**E.g.**  $78 \times 98 - 25\%$  of 1376

**Sol:**  $78 \times 98 - 25/100 \times 1376$

$$\Rightarrow 7644 - 34400/100$$

$$\Rightarrow 7644 - 344 = 7300 \text{ (Ans.) (it requires tedious calculation)}$$

After this tedious calculation ( $128.01 \times 1023.99$ ) without a calculator, we are not left with time, in the exam hall we will prefer to leave this question.

In Approximation, to solve the complex mathematical expression, take the nearest value of numbers given in the expression. Try to make unit digit 0' in most cases.

Let's look at the above question again.

**E.g.**  $? = 32.01 + 128.01 \times 1023.99 + 7.99$

**Sol:** Let's try to round off to nearest integer

$$\Rightarrow ? = 32 + 128 \times 1024 + 8$$

Or we can say,

$$\Rightarrow ? = 2^5 + 2^7 \times 2^{10} + 2^3$$

$$\Rightarrow ? = 2^5 + 2^{17} + 2^3$$

$$\Rightarrow ? = 2^3 (2^2 + 2^{14} + 1)$$

$$\Rightarrow ? = 8 (16389) = 131112 \text{ (Ans.)}$$

By calculator we would get 131112.09. Here it is, we got the solution.

Now, let's look at the actual question asked in bank exam.

**E.g.**  $662.899 \times 42.003 \div (13.899 \times 5.101 + 14.1022 \times 0.9974) = \sqrt{?}/2.0034$  [SBI Clerk Mains 2022]

**Sol:**  $662.899 \times 42.003 \div (13.899 \times 5.101 + 14.1022 \times 0.9974) = \sqrt{?}/2.0034$

Taking approximate values,

$$\Rightarrow 663 \times 42 \div (14 \times 5 + 14 \times 1) = \sqrt{?}/2$$

$$\Rightarrow 663 \times 84/84 = \sqrt{?}$$

$$\Rightarrow \sqrt{?} = 663^2 = 439569 \text{ (Ans.)}$$

**[Tip:** For finding 10% of a number simply move the decimal to one digit left.]

For finding 25% simply divides the number by 4.

## Shout-cut method for Percentage

Sr. No.	Required Percentage (%)	Number divided by
1.	200	1/2
2.	50	2
3.	33.33	3
4.	25	4
5.	20	5
6.	10	10
7.	5	20
8.	1	100



Let's look at some examples.

**E.g.**  $78 \times 98 - 25\%$  of 1376

**Sol:**  $78 \times 98 - 344$  (Using approximation and table)

$\Rightarrow 8000 - 344 = 7656$  (Ans.)

This can be done in mind without the use of pen and paper.

**E.g.**  $34.02\%$  of  $550.09 + ? = 297.07 + \sqrt{728.95}$

**Sol:**  $34.02\%$  of  $550.09 + ? = 297.07 + \sqrt{728.95}$

$\Rightarrow 34\%$  of  $550 + ? = 300 + \sqrt{729}$

$\Rightarrow (25 + 10 - 1)\%$  of  $550 + ? = 300 + 27$



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$$\Rightarrow 25\% \text{ of } 550 + 10\% \text{ of } 550 - 1\% \text{ of } 550 + ? = 327$$

$$\Rightarrow 137.5 + 55 - 5.5 + ? = 327$$

$$\Rightarrow 132 + ? = 327$$

$$\Rightarrow ? = 327 - 132 = 195 \text{ (Ans.)}$$

Now, Let's look at some question on Approximation that were asked in **Bank Exams**.

## Examples on Approximation for Better Understanding

**E.g.**  $32.979 \times 177.77 + 21.972 \times 420.901 - 67.111 \times 128.022 - 9.9119 = -483.969/131.889 + ?^2$  [SBI Clerk Mains 2022]

**Sol:**  $32.979 \times 177.77 + 21.972 \times 420.901 - 67.111 \times 128.022 - 9.9119 = -483.969/131.889 + ?^2$

Taking approximate values,

$$\Rightarrow 33 \times 178 + 22 \times 421 - 67 \times 128 - 10 = -484/132 + ?^2$$

$$\Rightarrow 5874 + 9262 - 8576 - 10 = -11 + ?^2$$

$$\Rightarrow 6561 = ?^2$$

$$\Rightarrow ? = 81 \text{ (Ans.)}$$

**E.g.** 25.05% of 29.89% of 40.05% of 1000 = 20.09% of ? [IBPS Clerk Mains 2022]

**Sol:** 25.05% of 29.89% of 40.05% of 1000 = 20.09% of ?

$$\Rightarrow 25\% \text{ of } 30\% \text{ of } 40\% \text{ of } 1000 \sim 20\% \text{ of } ?$$

$$\Rightarrow 0.2 \times ? = 30$$

$$\Rightarrow ? = 30/0.2 = 150 \text{ (Ans.)}$$

**E.g.**  $(?)^3 \times 8 = 1323 \div (9.261 \div 7)$  [SBI Clerk Prelims 2022]

**Sol:**  $(?)^3 \times 8 = 1323 \div (9.261 \div 7)$

Taking Approximate values,

$$\Rightarrow (?)^3 \times 8 = 1323 \div (1.323)$$

$$\Rightarrow (?)^3 \times 8 = 1000$$

$$\Rightarrow (?)^3 = 125 = (5)^3$$



## How to tackle Approximation Questions For Bank Exams

⇒ ? = 5 (Ans.)

**E.g.** 51.88% of 199.99 + 71.89% of 499.98 = 81.89% of 199.92 + ? [IBPS Clerk Mains 2021]

**Sol:** 51.88% of 199.99 + 71.89% of 499.98 = 81.89% of 199.92 + ?

can be written as,

⇒ 52% of 200 + 72% of 500 = 82% of 200 + ?

⇒  $52/100 \times 200 + 72/100 \times 500 = 82/100 \times 200 + ?$

⇒  $52 \times 2 + 72 \times 5 = 82 \times 2 + ?$

⇒  $104 + 360 = 164 + ?$

⇒  $464 = 164 + ?$

⇒ ? =  $464 - 164 = 300$  (Ans.)

In conclusion, mastering the art of tackling approximation questions is an indispensable skill for achieving success in Bank Exams. This guide has equipped you with the knowledge, strategies, and practice necessary to confidently navigate these mathematical challenges. By honing your approximation techniques and practicing with real-world examples, you've bolstered your problem-solving abilities and enhanced your chances of securing a high score.

As you step into the world of Bank Exams, remember that the ability to efficiently handle approximation questions will not only save you valuable time but also set you apart as a competent and well-prepared candidate. With dedication and practice, you can confidently approach your upcoming Bank Exams, knowing that you have the skills needed to tackle approximation questions with precision and finesse. So, go forth with confidence, embrace the opportunities, and make your mark in the world of banking with your newfound expertise in approximation.

In our next blog, we will discuss another important topic of Quantitative Aptitude for Bank Exams i.e. [Data Interpretation](#). Stay tuned!