

Approximation & Simplification Questions with Solutions

Directions (Q1 - Q10): Simplify the following equations and find the most approximate value for each of them:

Q 1. $11^3 - 6^3 - 2^3 \div 10^2 = ?$

1. 1000
2. 990
3. 998
4. 997
5. 992

Answer: (2) 990

Solution:

$$11^3 - 6^3 - 10^3 \div 2^2 = ?$$

\Rightarrow According to BODMAS, $10^3 \div 2^2 = 125$

Then,

$$\Rightarrow 1331 - 216 - 125 = ?$$

$$\Rightarrow 1115 - 125 = 990$$

Q 2. 37.95% of 1200 – 5.78% of 1800 =?

1. 350
2. 342
3. 348
4. 346
5. 352

Answer: (3) 348

Solution:

$$37.95\% \text{ of } 1200 = 38\% \times 1200 = 456$$

$$5.78\% \text{ of } 1800 = 6\% \times 1800 = 108$$

So,

$$456 - 108 = 348$$

Q 3. $4(3/10) + 2(5/3) - 5(7/8) = ?$

1. 17
2. 20
3. 21
4. 23
5. 22

Answer: (1) 17

Solution:

$$4\frac{3}{10} = \frac{43}{10}$$

$$2\frac{5}{3} = \frac{11}{3}$$

$$5\frac{7}{8} = \frac{47}{8}$$

$$\text{Thus, } (\frac{43}{10}) + (\frac{11}{3}) + (\frac{47}{8}) = 4.3 + 3.66 + 5.8 = 4 + 4 + 6 = 14$$

Q 4. $455.98 \div 24.04 \times 38.190 - 957.88 + 363.78 = ?$

1. 127
2. 128
3. 129
4. 130
5. 131.890

Answer: (2) 128

Solution:

$$455.98 \div 24.04 \times 38.190 - 957.88 + 363.78 = ?$$

$$\Rightarrow 456 \div 24 \times 38 - 958 + 364 = ?$$

$$\Rightarrow 19 \times 38 - 958 + 364 = ?$$

$$\Rightarrow 722 - 958 + 364 = ?$$

$$\Rightarrow 722 - 594 = ?$$

$$\Rightarrow ? = 128$$

Q 5. $(2221.78 - 1680 \times 0.68) \times 1.4 = ?$

1. 1115
2. 1215
3. 1125
4. 1512
5. 1521

Answer: (4) 1512

Solution:

$$(2221.78 - 1680 \times 0.68) \times 1.4 = ?$$

$$\Rightarrow (2221.78 - 1142.4) \times 1.4 = ?$$

$$\Rightarrow 1080 \times 1.4 = ?$$

$$\Rightarrow ? = 1512$$

Q 6. $888.88 + 88.88 + 18 + 0.88 + 0.08 = ?$

1. 996.72
2. 995.72

3. 997.72
4. 996.62
5. 995.52

Answer: (1) 996.72

Solution:

$$888.88 + 88.88 + 18 + 0.88 + 0.08 = ?$$
$$? = 996.72$$

Q 7. $6.2 \times 3.3 + 1.72 \times 7.82 + 134.001 = ?$

1. 160
2. 162
3. 164
4. 166
5. 168

Answer: (5) 168

Solution:

$$6.2 \times 3.3 + 1.72 \times 7.82 + 134.001 = ?$$

$$6.2 \times 3.3 = 20.46$$

$$1.72 \times 7.82 = 13.45$$

Thus,

$$20.46 + 13.45 + 134.001 = 167.911$$

Q 8. $(4448 - 2884 - 569) \div (279 - 116 - 93) = ?$

1. 14
2. 16
3. 18
4. 19
5. 22

Answer: (1) 14

Solution:

$$(4448 - 2884 - 569) \div (279 - 116 - 93) = ?$$

$$(4448 - 2884 - 569) = 995$$

$$(279 - 116 - 93) = 70$$

Thus,

$$995 \div 70 = 14.22$$

Q 9. $(79.012)^2 - (43.99)^2 = ?$

1. 4300

- 2. 4301
- 3. 4302
- 4. 4304
- 5. 4305

Answer: (5) 4305

Solution:

$$\begin{aligned}(79.012)^2 - (43.99)^2 &=? \\ \Rightarrow (79)^2 - (44)^2 &=? \\ \Rightarrow 6241 - 1936 & \\ \Rightarrow 4305 &\end{aligned}$$

Q 10. $22240 \div \sqrt{?} = 24 \times 17$

- 1. 55
- 2. 3025
- 3. 3021
- 4. 53
- 5. None of the Above

Answer: (2) 3025

Solution:

$$\begin{aligned}22240 \div \sqrt{?} &= 24 \times 17 \\ \Rightarrow 22240 \div \sqrt{?} &= 408 \\ \Rightarrow \sqrt{?} &= 22240 \div 408 \\ \Rightarrow \sqrt{?} &= 54.51 \\ \text{Therefore, } \sqrt{?} &= 55 \text{ and } ? = 55 \times 55 = 3025\end{aligned}$$

Candidates must make sure they solve more and more questions to increase efficiency and speed to answer the approximation and simplification questions.

Apart from the approximation/ simplification questions, candidates can also check the below-mentioned links to ace the numerical ability section for the various competitive exams:

Data Interpretation	Data Sufficiency	Number Series
Problems on Ages	Boat and Streams	Shortcut Tricks for Square, Cube & Multiplication