Approximation

Solution

1. **Answer: (A)**

$\approx 45 \times 5 \times \frac{6x}{5}x^2$

X = 270

2. **Answer: (B)**

$\approx 13870 + \frac{133}{100} \times 1600 - \frac{7}{5} \times 4750 + \frac{1}{3} of\ 258$

$\approx 13870 + 2128 - 6389 + 86 = 9686$

3. **Answer: (A)**

$\approx 5540 + 140 \times 6 - 77 \times 13 + \frac{10}{100} \times 1200 - 10\%\ of\ 60$

$= 5540 + 840 - 1001 + 120 - 6$

$\approx 6500 - 1000 - 6 = 5493$

4. **Answer: (A)**

? + 6499 + 3601 × 14.989 − 8799.9 + 97.334

$\approx 6500 + 3600 \times 15 - 8800 + 97$

$= 6500 + 54000 - 8800 + 97$

$= 60500 - 8800 + 97 \approx 51800$

5. **Answer: (E)**

$? + \frac{5}{7} \times 7001 + 101.21 + \frac{6}{9} \times 863 - \frac{23}{7} \times 1751$

$= \frac{5}{7} \times 7000 + 101 + \frac{6}{9} \times 864 - \frac{23}{7} \times 1750$

$= 5000 + 101 + 576 - 5750$

$= 5677 - 5750 = -73$

6. **Answer: (A)**

$32\sqrt[3]{?} + (17.08)^2 + 600 = 1800$

or, $32\sqrt[3]{?} + (17)^2 + 600 \approx 1800$

or, $32\sqrt[3]{?} + 289 + 600 \approx 1800$

or, $32\sqrt[3]{?} + 290 + 600 \approx 1800$

or, $32\sqrt[3]{?} \approx 1800 - 890$

or, $32\sqrt[3]{?} \approx 910$

Or, $32\sqrt[3]{?} \approx \frac{910}{32} \approx 27$

or, $32\sqrt[3]{?} \approx \sqrt{3 \times 3 \times 3}$

$\therefore ? \approx 3$

7. **Answer: (A)**

$(13.68)^2 - (4.78)^2 + (8.28)^3 - (5.24)^3$

= 187 – 22 + 567 – 143

= 165 + 424

= 589 ≈ 600

8. **Answer: (C)**

$32 \div 4 \div 10 + 29 = ?$

$? = 8 \div 10 + 29$

? = 29.8 ≈ 30

9. **Answer: (E)**

$\sqrt{?} = (1248.28 + 51.7) \div 99.9 - 7.98$

$\sqrt{?} = (1300 \div 100) - 8$

$\sqrt{?} = 5$

? = 25

10. **Answer: (B)**

111.1 + 25. 8 + 153.5

= 290.4

11. **Answer: (E)**

$182 \times 51 - 6889 = (?)^2 + 1369$

$9282 - 6889 = (?)^2 + 1369$

$2393 - 1369 = (?)^2$

$(?)^2 = 1024$

? = 32

12. **Answer: (C):**

$4^? \times \sqrt{226} = 245.998 \div 8.001 + 929.99$

$4^? \times \sqrt{226} = 246 \div 8 + 930$

$4^? \times 15 = 31 + 930 = 961$

$4^? = 960/15 = 64 = 4^?$

So, ? = 3

13. **Answer: (D)**

$27^2 \times 12^3/(48/0.5^2) = 3^?$

$(33)^2 \times (2^2 \times 3)^3/(48/0.25) = 3^?$

$(3^6 \times 2^6 \times 3^3)/192 = 3^?$

$3^9/3 = 3^?$

$3^? = 3^8$

? = 8

14. **Answer: (B)**

35% of (336/10.5 – 360/22.5) = ?

? = 35/100 (336/10.5 – 360/22.5)

? = 35/100 (32 – 16)
? = 35/100 × 16 = 28/5

15. Answer: (D)

20% of 250 × 120% of ? = 480
(20 × 250)/100 × (120 × ?)/100 = 480
=> (50 × 6 × ?)/5 = 480
=> 60 × ? = 480
=> ? = 480/60 = 8

16. Answer: (B)

Correct answer is option 2 i.e. 405
11.11 × 9 + √(1224) = ?/3
100 + 35 = ?/3
?/3 = 135
? = 405

17. Answer: (B)

263.99 ÷ (35.05 + 8.08 – 31.99)
The numbers can be taken to nearest decimal point
⇒ 264 ÷ (35 + 8 – 32)
⇒ 264/11 = 24
263.99 ÷ (35.05 + 8.08 – 31.99)
Answer: (B)

263.99 ÷ (35.05 + 8.08 – 31.99)
⇒ 264 ÷ (35 + 8 – 32)
⇒ 264/11 = 24

18. Answer: (D)

24.96% of 299.99 + 44.98% of 399.99
⇒ 25% of 300 + 45% of 400
⇒ 75 + 180
⇒ 255

19. Answer: (E)

$119.99 – \{64.95 + 119.99 \div 3.99\} = ?^2$
$\Rightarrow 120 – \{65 + 120 \div 4\} = ?^2$
$\Rightarrow 120 – (65 + 30) = ?^2$
$\Rightarrow 25 = ?^2$
$\therefore ? = 5$

20. Answer: (B)

√255.95 + 14.99 × 2.99 = ? + 11.11
⇒ √256 + 15 × 3 = ? + 11
⇒ 16 + 45 = ? + 11
⇒ 61 = ? + 11
⇒ ? = 61 – 11 = 50