Quiz Date: 26th July 2020

Directions (1-10): What should come in place of question mark (?) in following simplification problems?

Q1. $\left(\frac{1}{64}\right)^{0} + (64)^{-\frac{1}{2}} + (-32)^{\frac{4}{5}} = ?$

(a) $17\frac{1}{8}$
(b) $17\frac{3}{8}$
(c) $11\frac{7}{8}$
(d) $17\frac{7}{8}$
(e) 15

Q2. If $\sqrt{2^{?}} = 64$

(a) 8
(b) 10
(c) 12
(d) 16
(e) 14

Q3. $11\frac{1}{3} \times 4\frac{8}{10} \div ? = 22\frac{2}{3}$
(a) 2.4
(b) 4.2
(c) 2.6
(d) 2.8
(e) 3.2

Q4. $(1.06 + 0.04)^2 - ? = 4 \times 1.06 \times 0.04$
(a) 1.04
(b) 1.4
(c) 1.5
(d) Can't be determined
(e)1.0404

Q5. $[(140)^2 \div 70 \times 16] \div 8 = 14 \times ?$
(a) 38

(b) 22
(c) 55
(d) 40
(e) 36

Q6. 2151.46 + 5437.54 – 6795 = ?
(a) 974
(b) 794
(c) 796
(d) 790
(e) 792

Q7. $\frac{2}{5}$ of 215 + $\frac{3}{4}$ of 128 – $\frac{4}{7}$ of 147 =?
(a) 94
(b) 96
(c) 98
(d) 92
(e) 100

Q8. 56% of 700 + 64% of 900 – 40% of 290 = ?
(a) 848
(b) 852
(c) 850
(d) 854
(e) 846

Q9. 7777 ÷ 11 + 888 ÷ 6 = ?
(a) 855
(b) 857
(c) 853
(d) 850
(e) 852

Q10. $\sqrt[3]{1331} \times \frac{3}{11}\%$ of $14300 = ?$

(a) 426
(b) 427
(c) 431
(d) 429
(e) 432

Directions (11-15): In the following questions two equations numbered I and II are given. You have to solve both the equations and

I. $2x^2 - 13x + 21 = 0$
II. $2y^2 - 9y + 10 = 0$

Q11.
(a) if x > y
(b) if x < y
(c) if x ≥ y
(d) if x ≤ y
(e) x = y or relation cannot be established between x and y

I. $3x^2 - 14x + 15 = 0$
II. $2y^2 - 9y + 9 = 0$

Q12.
(a) if x > y
(b) if x < y
(c) if x ≥ y
(d) if x ≤ y
(e) x = y or relation cannot be established between x and y

I. $x^2 - 32 = 112$
II. $y - \sqrt{169} = 0$

Q13.
(a) if x > y
(b) if x ≥ y
(c) if x < y
(d) if x ≤ y
(e) if x = y or the relationship cannot be established.

I. $x - \sqrt{121} = 0$
II. $y^2 - 121 = 0$

Q14.
(a) if x > y
(b) if x ≥ y
(c) if x < y
(d) if x ≤ y

(e) if x = y or the relationship cannot be established.

Q15. **I.** $2x^2+5x+3=0$

II. $8y^3+27=0$

(a) if x > y
(b) if x ≥ y
(c) if x < y
(d) if x ≤ y
(e) if x = y or the relationship cannot be established.

Solutions

S1. Ans.(a)

$$1+\frac{1}{(64)^{\frac{1}{2}}}+(-2)^4$$

$$=17\frac{1}{8}$$

Sol.

S2. Ans.(c)

$$\sqrt{2^?}=64, 2^?=64\times64=2^{12}$$

$$?=12$$

Sol.

S3. Ans.(a)

$$\frac{\frac{34}{3}\times\frac{48}{10}}{\frac{68}{3}}=?, ?=2.4$$

Sol.

S4. Ans.(e)

$$(1.1)^2-(4.24\times0.04)=?$$

$$\Rightarrow ?=1.0404$$

Sol.

S5. Ans.(d)

$$?=\frac{(280\times16)\div8}{14}=40$$

Sol.

S6. Ans.(b)
Sol.

? = 794

S7. Ans.(c)
Sol.
? = 86 + 96 – 84 = 98

S8. Ans.(b)
Sol.
? = 56 × 7 + 64 × 9 – 4 × 29
= 852

S9. Ans.(a)
Sol.
? = 707 + 148
= 855

S10. Ans.(d)
Sol. $? = 11 \times \frac{3}{1100} \times 14300 = 429$

S11. Ans. (a)
Sol.
I. $2x^2 - 13x + 21 = 0$
$\Rightarrow 2x^2 - 6x - 7x + 21 = 0$
$\Rightarrow (x-3)(2x-7) = 0$
$\Rightarrow x = 3, \frac{7}{2}$
II. $2y^2 - 9y + 10 = 0$
$\Rightarrow 2y^2 - 4y - 5y + 10 = 0$
$\Rightarrow (y-2)(2y-5) = 0$
$\Rightarrow y = 2, \frac{5}{2}$
$x > y$

S12. Ans. (e)

Sol.

I. $3x^2 - 14x + 15 = 0$

$\Rightarrow 3x^2 - 9x - 5x + 15 = 0$

$\Rightarrow (x-3)(3x-5) = 0$

$\Rightarrow x = 3, \frac{5}{3}$

II. $2y^2 - 9y + 9 = 0$

$\Rightarrow 2y^2 - 6y - 3y + 9 = 0$

$\Rightarrow (y-3)(2y-3) = 0$

$\Rightarrow y = 3, \frac{3}{2}$

No relation

S13. Ans.(c)

Sol.

(I) $x^2 - 32 = 112$

$\Rightarrow x^2 = 112 + 32$

$\Rightarrow x = \pm 12$

(II) $y = \sqrt{169}$

$\Rightarrow y = 13$

$\therefore y > x$

S14. Ans.(b)

Sol.

(I) $x - \sqrt{121} = 0$

$\Rightarrow x = \sqrt{121}$

$\Rightarrow x = 11$

(II) $y^2 - 121 = 0$

$\Rightarrow y^2 = 121$

$\Rightarrow y = \pm 11$

$\therefore x \geq y$

S15. Ans. (b)

Sol.

I. $2x^2 + 5x + 3 = 0$

$2x^2+2x+3x+3 = 0$

$(x+1)(2x+3) = 0$

$x = -1, -\frac{3}{2}$

II. $y^3 = -\frac{27}{8}$

$y = -\frac{3}{2}$

$x \geq y$

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