Quiz Date: 20th September 2020

Directions (1 – 5) : In each of these questions two equations numbered I & II are given. You have to solve both the equations and give answer.
(a) If x < y
(b) If x > y
(c) If relationship between a and b cannot be established
(d) If x ≥ y
(e) If x ≤ y

Q1. I. $x^2 - 12x + 27 = 0$
II. $y^2 + 5y - 84 = 0$

Q2. I. $x^2 - 4x - 60 = 0$
II. $y^2 - 26y + 165 = 0$

Q3. I. $x^2 = 4624$
II. $y = \sqrt{4624}$

Q4. I. $9x^2 - 27x + 14 = 0$
II. $3y^2 - 17y + 10 = 0$

Q5. I. $12x^2 + 5x - 2 = 0$
II. $8y^2 - 6y + 1 = 0$

Directions (6-10): What should come in the place of the question mark (?) in following number series problems?

Q6. 4, 5, 12, 39, 160, ?
(a) 840
(b) 845
(c) 694
(d) 796
(e) 805

Q7. 5, 10, 17, 28, 45, ?
(a) 65
(b) 70
(c) 75
(d) 60
(e) 72

Q8. 48, 26, 28, 44, 90, ?
(a) 232
(b) 229

(c) 237
(d) 227
(e) 244

Q9. 10, 11, 24, 75, 304, ?
(a) 1506
(b) 1996
(c) 1188
(d) 1525
(e) 1750

Q10. 14, ?, 20, 12, 26, 15
(a) 11
(b) 7
(c) 9
(d) 13
(e) None

Directions (11 – 15): What approximate value should come in the place of question (?) marks in the given question:

Q11. 270.05% of 19.99 + 29.95 × 2.01 = ? × 2
(a) 51
(b) 53
(c) 57
(d) 60
(e) 62

Q12. $\sqrt[3]{27.03 \times 64.07} + \sqrt{63.93 \times 6.26} = \sqrt{?\times 4}$
(a) 16
(b) 256
(c) 4
(d) 512
(e) 216

Q13. $16.09 \times \sqrt[3]{215.99} - \frac{23.95\times7.06}{2.93\times2.01} = \sqrt{?} + \sqrt{676.87}$
(a) 1676
(b) 1324
(c) 1764
(d) 1729
(e) 1024

Q14. ?% of 349.89 + $(24.87)^2$ = 67.46 + 19.99% of 2962.41
(a) 7
(b) 2
(c) 5

(d) 10
(e) 15

Q15. $\frac{2187.37}{(2.99)^{4.99}} + ? = \frac{124.92 \times 24.89}{(4.89)^2}$
(a) 105
(b) 116
(c) 124
(d) 135
(e) 145

Solutions

S1. Ans. (c)
Sol.
I. $x^2 - 12x + 27 = 0$
$x^2 - 9x - 3x + 27 = 0$
$x(x-9) - 3(x-9) = 0$
$(x-9)(x-3) = 0$
$x = 3, 9$

II. $y^2 + 5y - 84 = 0$
$y^2 + 12y - 7y - 84 = 0$
$y(y+12) - 7(y+12) = 0$
$(y-7)(y+12) = 0$
$y = 7, -12$
So, no relation

S2. Ans. (a)
Sol.
I. $x^2 - 4x - 60 = 0$
$x^2 - 10x + 6x - 60 = 0$
$x(x-10) + 6(x-10) = 0$
$(x+6)(x-10) = 0$
$x = -6, 10$

II. $y^2 - 26y + 165 = 0$
$y^2 - 11y - 15y + 165 = 0$
$y(y-11) - 15(y-11) = 0$
$(y-11)(y-15) = 0$
$y = 11, 15$
So, y > x

S3. Ans. (e)
Sol.
I. $x^2 = 4624$

$x = \pm 68$

II. $y = \sqrt{4624}$
$y = 68$
So, $y \geq x$.

S4. Ans (c)
Sol.
I. $9x^2 - 27x + 14 = 0$
$9x^2 - 6x - 21x + 14 = 0$
$3x(3x - 2) - 7(3x - 2) = 0$
$(3x - 2)(3x - 7) = 0$
$x = \frac{2}{3}, \frac{7}{3}$

II. $3y^2 - 17y + 10 = 0$
$3y^2 - 15y - 2y + 10 = 0$
$3y(y - 5) - 2(y - 5) = 0$
$(3y - 2)(y - 5) = 0$
$y = \frac{2}{3}, 5$
So, no relation

S5. Ans.(e)
Sol.
I. $12x^2 + 5x - 2 = 0$
$12x^2 + 8x - 3x - 2 = 0$
$4x(3x + 2) - 1(3x + 2) = 0$
$(4x - 1)(3x + 2) = 0$
$x = \frac{1}{4}, x = \frac{-2}{3}$
II. $8y^2 - 6y + 1 = 0$
$8y^2 - 4y - 2y + 1 = 0$
$4y(2y - 1) - 1(2y - 1) = 0$
$(4y - 1)(2y - 1) = 0$
$y = \frac{1}{4}, \frac{1}{2}$
$\therefore y \geq x$

S6. Ans. (e)
Sol.
The pattern of this series
$\times 1 + 1, \quad \times 2 + 2, \quad \times 3 + 3, \quad \times 4 + 4, \quad \times 5 + 5$ ……
So, ?= 805

S7. Ans. (b)
Sol.
The pattern of the series

+5, +7, +11, +17, +25, +35

S8. Ans. (d)
Sol.
The given pattern
$\times\frac{1}{2}+2,\quad \times 1+2,\ \times\frac{3}{2}+2,\quad \times 2+2$…….
?= 227

S9. Ans. (d)
Sol.
10×1 + 1 = 11
11×2+ 2 = 24
24×3+3 = 75
75×4+4 =304
304×5+5 = 1525.

S10. Ans. (c)
Sol.
14÷2+2=9
9×2+2=20
20÷2+2=12
12×2+2=26
26÷2+2=15

S11. Ans.(c)
Sol.
$\frac{20\times 270}{100}+30\times 2=?\times 2$
54 + 60 = ? × 2
$\frac{114}{2}=?$
57 = ?

S12. Ans.(b)
Sol.
$\sqrt[3]{27\times 64}+\sqrt{64\times 6.25}=\sqrt{?\times 4}$
$3\times 4+8\times 2.5=\sqrt{?\times 4}$
$\frac{32}{2}=\sqrt{?}$
? = 256

S13. Ans.(c)
Sol.
$16\times 6-\frac{24\times 7}{3\times 2}=\sqrt{?}+26$

$96 - 4 \times 7 = \sqrt{?} + 26$
$96 - 28 - 26 = \sqrt{?}$
$96 - 54 = \sqrt{?}$
$? = 1764$

S14. Ans.(d)
Sol.
$?\%$ of $350 + (25)^2 = 67.5 + 20\%$ of 2962.5
$?\%$ of $350 + 625 = 67.5 + \frac{2963}{5}$
$?\%$ of $350 = 67.5 + 592.5 - 625$
$?\%$ of $350 = 35$
$? = 10$

S15. Ans.(b)
Sol.
$\frac{2187}{3^5} + ? = \frac{125 \times 25}{5^2}$
$\frac{2187}{243} + ? = 125$
$? = 116$