Quiz Date: 3rd May 2020

Directions (1-10): What should come in place of the question mark (?) In the following number series?

Q1. 50, 25, 37.5, 93.75, 328.125, ?
(a) 1276.5625
(b) 1376.5625
(c) 1476.5625
(d) 1496.5625
(e) 1576.5625

Q2. 5, 12.5, 54.5, 333.5, 2676.5, ?
(a) 26795.5
(b) 25775.5
(c) 36775.5
(d) 26775.5
(e) None of these

Q3. 76, 588, 2316, 6412, 14412, ?
(a) 28236
(b) 38236
(c) 46232
(d) 18438
(e) 28239

Q4. 119, 166, 221, 284, ?, 434
(a) 355
(b) 304
(c) 329
(d) 325
(e) 314

Q5. 547, 467, 477, 437, 447, ?
(a) 456
(b) 475
(c) 478
(d) 447
(e) 427

Q6. 15 14 19.5 37 ?
(a) 85
(b) 88
(c) 90
(d) 92.5
(e) none of these

Q7. 101 63 ? 34.5 29.75
(a) 41
(b) 42
(c) 43
(d) 44
(e) 45

Q8. 767 431 221 101 ?
(a) 41
(b) 42
(c) 43
(d) 44
(e) 46

Q9. 5555 5506 5425 5304 5135 ?
(a)4925
(b)4910
(c)4945
(d)4995
(e)4909

Q10. 840 1112 1322 1478 1588 ?
(a)1660
(b)1688
(c)1692
(d)1675
(e)1665

Directions (11-15): In each of these questions, two equations (I) and (II) are given. Solve the equations and mark the correct option:
(a) if x>y
(b) if x≥y
(c) if x<y
(d) if x ≤y
(e) if x = y or no relation can be established between x and y.

Q11. I. $x^2 - 3x = 4$
II. $y^2 + 6y + 8 = 0$

Q12. I. $x^2 - 3x = 10$
II. $y^2 + 7y + 10 = 0$

Q13. I. $x^2 + x - 12 = 0$
II. $y^2 - 9y + 14 = 0$

Q14. I. $6x^2 + 5x + 1 = 0$
II. $4y^2 - 15y = 4$

Q15. **I.** $63x - 94\sqrt{x} + 35 = 0$
II. $32y - 52\sqrt{y} + 21 = 0$

Solutions

S1. Ans.(c)
Sol.
×0.5, ×1.5, ×2.5, ×3.5, ×4.5
328.125 × 4.5 = 1476.5625

S2. Ans.(d)
Sol.
×2 + 2.5, ×4 + 4.5, ×6 + 6.5, ×8 + 8.5, ×10 + 10.5
2676.5×10+10.5
= 26765 + 10.5
= 26775.5

S3. Ans.(a)
Sol.
$+8^3, +12^3, +16^3, 20^3, +$ .....
$14412 + 24^3 = 28236$

S4. Ans.(a)
Sol.
$+(8 \times 6) - 1, +(8 \times 7) - 1, +(8 \times 8) - 1, +(8 \times 9) - 1, +(8 \times 10) - 1$
$284 + (8 \times 9) - 1 = 284 + 71$
$= 355$

S5. Ans.(e)
Sol.
–80, +10, –40, +20.....
(it's a double series – 80 -40 ..... & +10 +20 .....)

447 – 20= 427

S6. Ans.(c)
Sol. $\times 1-1, \times 1.5-1.5, \times 2-2, \times 2.5-2.5$……..

S7. Ans.(d)
Sol. $-38, -19, -9.5, -4.75$……..

S8. Ans.(a)
Sol. $-7^3+7, -6^3+6, -5^3+5, -4^3+4$……..

S9. Ans (b)
Sol.

5555	5506	5425	5304	5135	?
	-49	-81	-121	-169	-225
	$=7^2$	$=9^2$	$=11^2$	$=13^2$	$=15^2$

5135 – 225 = 4910

S10. Ans (a)
Sol. $+(17^2-17), +(15^2-15), +(13^2-13)$ ……
$1588+(9^2-9) = 1588+81-9 = 1660$

S11. Ans.(a)
Sol.
I. $x^2 - 3x - 4=0$
$x^2 - 4x + x - 4 = 0$
(x – 4) (x + 1) = 0
x = 4, –1
II. $y^2 + 6y + 8 = 0$
$y^2 + 2y + 4y + 8 = 0$
(y + 2) (y + 4) = 0
y = –2, –4
⇒ x > y

S12. Ans.(b)
Sol.

I. $x^2 - 3x = 10$
$x^2 - 3x - 10 = 0$
$x^2 - 5x + 2x - 10 = 0$
$(x - 5)(x + 2) = 0$
$x = -2, 5$
II. $y^2 + 7y + 10 = 0$
$y^2 + 5y + 2y + 10 = 0$
$(y + 5)(y + 2) = 0$
$y = -2, -5$
$\Rightarrow x \geq y$

S13. Ans.(e)
Sol.
I. $x^2 + x - 12 = 0$
$x^2 + 4x - 3x - 12 = 0$
$(x + 4)(x - 3) = 0$
$x = -4, 3$
II. $y^2 - 9y + 14 = 0$
$y^2 - 7y - 2y + 14 = 0$
$(y - 7)(y - 2) = 0$
$y = 2, 7$
$\Rightarrow$ no relation can be established between x & y.

S14. Ans.(c)
Sol.
I. $6x^2 + 5x + 1 = 0$
$6x^2 + 3x + 2x + 1 = 0$
$(3x + 1)(2x + 1) = 0$
$x = \frac{-1}{3}, \frac{-1}{2}$

II. $4y^2 - 15y = 4$
$4y^2 - 15y - 4 = 0$
$4y^2 - 16y + y - 4 = 0$
$(4y + 1)(y - 4) = 0$
$y = \frac{-1}{4}, 4$
$\Rightarrow x < y$

S15. Ans. (e)
Sol. Let $\sqrt{x} = a$
$63a^2 - 94a + 35 = 0$
$63a^2 - 49a - 45a + 35 = 0$
$7a(9a - 7) - 5(9a - 7) = 0$
$a = \frac{5}{7}, \frac{7}{9}$
$x = \frac{25}{49}, \frac{49}{81}$

Let $\sqrt{y} = b$

$32b^2-52b+21=0$

$32b^2 - 28b - 24b + 21 = 0$

$4b(8b - 7) - 3(8b - 7) = 0$

$b = \frac{3}{4}, \frac{7}{8}$

$y = \frac{9}{16}, \frac{49}{64}$

No relation can be established.