Subject: : Missing Series and Quadratic Inequalities

Directions (1-10): निम्नलिखित संख्या श्रृंखला में प्रश्नवाचक चिह्न (?) के स्थान पर क्या मान आना चाहिए?

Q1. 50, 25, 37.5, 93.75, 328.125, ?
(a) 1276.5625
(b) 1376.5625
(c) 1476.5625
(d) 1496.5625
(e) 1576.5625
L1Difficulty 3
QTagsMISSING SERIES Quant
QCreatorDeepak Rohilla

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
L1Difficulty 3
QTagsMISSING SERIES Quant
QCreatorDeepak Rohilla

Q3. 76, 588, 2316, 6412, 14412, ?
(a) 28236
(b) 38236
(c) 46232
(d) 18438
(e) 28239
L1Difficulty 3
QTagsMISSING SERIES Quant
QCreatorDeepak Rohilla

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

(e) 314
L1Difficulty 3
QTagsMISSING SERIES Quant
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Q5. 547,   467,   477,   437,   447,   ?
(a) 456
(b) 475
(c) 478
(d) 447
(e) 427
L1Difficulty 3
QTagsMISSING SERIES Quant
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Q6. 15   14   19.5   37   ?
(a) 85
(b) 88
(c) 90
(d) 92.5
(e) none of these
L1Difficulty 3
QTagsMISSING SERIES Quant
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Q7. 101   63   ?   34.5   29.75
(a) 41
(b) 42
(c) 43
(d) 44
(e) 45
L1Difficulty 3
QTagsMISSING SERIES Quant
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Q8. 767   431   221   101 ?
(a) 41
(b) 42
(c) 43
(d) 44
(e) 46
L1Difficulty 3
QTagsMISSING SERIES Quant
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Q9. 5555   5506 5425 5304   5135   ?
(a)4925
(b)4910
(c)4945
(d)4995
(e)4909
L1Difficulty 3
QTagsMISSING SERIES Quant
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Q10. 840   1112 1322 1478 1588   ?
(a)1660
(b)1688
(c)1692
(d)1675
(e)1665
L1Difficulty 3
QTagsMISSING SERIES Quant
QCreatorDeepak Rohilla

Directions (11-15): इनमें से प्रत्येक प्रश्न में, दो समीकरण (I) और (II) दिए गए हैं। समीकरणों को हल करें और सही विकल्प अंकित कीजिए:

(a) **यदि** x>y

(b) **यदि** x≥y

(c) **यदि** x<y

(d) **यदि** x ≤y

(e) **यदि** x = y **या** x **और** y **के बीच कोई संबंध स्थापित नहीं किया जा सकता**

Q11.   I. $x^2 – 3x = 4$
II. $y^2 + 6y + 8 = 0$
L1Difficulty 3
QTagsQuadratic Inequalities
QCreatorDeepak Rohilla

Q12.   I. $x^2 – 3x = 10$
II. $y^2 + 7y + 10 = 0$
L1Difficulty 3
QTagsQuadratic Inequalities
QCreatorDeepak Rohilla

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

L1Difficulty 3
QTagsQuadratic Inequalities
QCreatorDeepak Rohilla

Q14.   I. $6x^2 + 5x + 1 = 0$
II. $4y^2 - 15y = 4$
L1Difficulty 3
QTagsQuadratic Inequalities
QCreatorDeepak Rohilla

Q15. **I.** $63x - 94\sqrt{x} + 35 = 0$
   II. $32y - 52\sqrt{y} + 21 = 0$
L1Difficulty 3
QTagsQuadratic Inequalities
QCreatorDeepak Rohilla

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.

$$5135 - 225 = 4910$$

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. $x^2 - 3x - 4=0$
$\qquad\qquad\qquad\qquad x^2 - 4x + x - 4 = 0$
(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. $x^2 - 3x = 10$
$\qquad\qquad\qquad\qquad x^2 - 3x - 10 = 0$
$x^2 - 5x + 2x - 10 = 0$
(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
⇒ x ≥ 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.