

Course:IBPS RRB PRELIMS

Subject: : Missing Series, Quadratic Inequalities and Approximation

Time:12 Minutes

Published Date: 1stJuly 2020

Direction (1-5):- निम्नलिखित प्रश्नों में प्रश्नवाचक चिह्न (?) के स्थान पर क्या मान आना चाहिए?

Q1. 36, 49, 75, 114, 166, ?

- (a) 225
- (b) 218
- (c) 231
- (d) 244
- (e) 235

L1Difficulty 2

QTags MISSING SERIES Quant

QCreatorAmit Kumar Singh

Q2. 1, 3, 9, 21, 41, ?

- (a) 61
- (b) 71
- (c) 83
- (d) 78
- (e) 68

L1Difficulty 2

QTags MISSING SERIES Quant

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Q3. 114, 110, 101, ?, 60, 24

- (a) 91
- (b) 84
- (c) 87
- (d) 85
- (e) 83

L1Difficulty 2

QTags MISSING SERIES Quant

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Q4. 343, ?, 125, 16, 27, 4

- (a) 216
- (b) 36

- (c) 49
- (d) 64
- (e) 81

L1Difficulty 2
QTags MISSING SERIES Quant
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- Q5. ?, 36, 37, 76, 307, 2460
- (a) 35.5
 - (b) 48
 - (c) 35
 - (d) 64
 - (e) 72

L1Difficulty 2
QTags MISSING SERIES Quant
QCreatorAmit Kumar Singh

Directions (6-10): निम्नलिखित प्रश्नों में (x) के स्थान पर क्या अनुमानित मान आएगा-

- Q6. $\sqrt{1023.99} + \sqrt{63.89} + \sqrt{960.89} + x = 699.99$ का 24.99%
- (a) 104
 - (b) 111
 - (c) 96
 - (d) 90
 - (e) 120

L1Difficulty 2
QTagsApproximation
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- Q7. $(26.99)^2 + (15.91)^2 + \sqrt{x} = 4999.99$ का 20.11%
- (a) 196
 - (b) 175
 - (c) 200
 - (d) 210
 - (e) 225

L1Difficulty 2
QTagsApproximation
QCreatorAmit Kumar Singh

- Q8. 255.89 का 74.99% + $\frac{39.94}{\sqrt{x}} = 649.81$ का 47.99%
- (a) $\frac{1}{16}$

(b) $\frac{1}{9}$

(c) $\frac{1}{25}$

(d) $\frac{1}{4}$

(e) $\frac{1}{36}$

L1Difficulty 2

QTagsApproximation

QCreatorAmit Kumar Singh

Q9. $\frac{2.99}{3.99} \times \sqrt[3]{511.99} + 650.11$ का 123.9% = x

(a) 850

(b) 792

(c) 812

(d) 841

(e) 750

L1Difficulty 2

QTagsApproximation

QCreatorAmit Kumar Singh

Q10. $\frac{1699}{125 \text{ का } 85\%} - 249.9 \div \left(\frac{5}{8} \times 100\right) \times \sqrt{x} = 0$

(a) 4

(b) 9

(c) 25

(d) 8

(e) 16

L1Difficulty 2

QTagsApproximation

QCreatorAmit Kumar Singh

Direction (11-15): निम्नलिखित प्रश्नों में, दो समीकरण (I) और (II) दिए गए हैं। दोनों समीकरणों को हल करें और उचित उत्तर अंकित कीजिए-

Q11.I. $3x^2 + 5x + 2 = 0$

II. $6y^2 - y = 2$

(a) $x < y$

(b) $x > y$

(c) $x \leq y$

(d) $x \geq y$

(e) $x = y$ या कोई सम्बन्ध नहीं है.

L1Difficulty 2

QTagsQuadratic Inequalities

QCreatorAmit Kumar Singh

Q12. I. $2x - \frac{3}{x} = 5$
II. $y^2 - 8y + 15 = 0$

- (a) $x < y$
- (b) $x > y$
- (c) $x \leq y$
- (d) $x \geq y$
- (e) $x = y$ या कोई सम्बन्ध नहीं है.

L1Difficulty 2

QTagsQuadratic Inequalities

QCreatorAmit Kumar Singh

Q13.I. $\sqrt{2x + 9} + x = 13$
II. $y^2 = 16$

- (a) $x < y$
- (b) $x > y$
- (c) $x \leq y$
- (d) $x \geq y$
- (e) $x = y$ या कोई सम्बन्ध नहीं है.

L1Difficulty 2

QTagsQuadratic Inequalities

QCreatorAmit Kumar Singh

Q14. I. $\sqrt{7}x^2 - 6x - 13\sqrt{7} = 0$
II. $y^2 - 9y - 36 = 0$

- (a) $x < y$
- (b) $x > y$
- (c) $x \leq y$
- (d) $x \geq y$
- (e) $x = y$ या कोई सम्बन्ध नहीं है.

L1Difficulty 2

QTagsQuadratic Inequalities

QCreatorAmit Kumar Singh

Q15. I. $x^2 - 11x + 30 = 0$
II. $y^2 - 7y + 10 = 0$

- (a) $x < y$
- (b) $x > y$

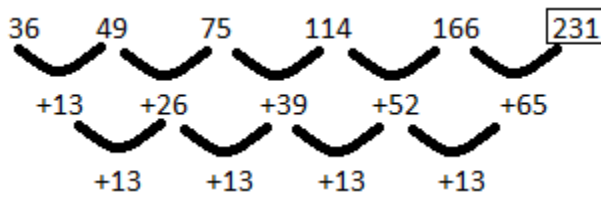
- (c) $x \leq y$
 (d) $x \geq y$
 (e) $x = y$ या कोई सम्बन्ध नहीं है.

L1Difficulty 2
 QTagsQuadratic Inequalities
 QCreatorAmit Kumar Singh

Solutions

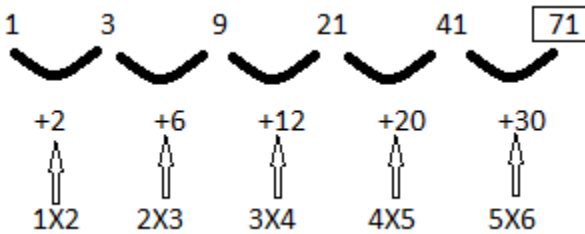
S1. Ans(c)

Sol.



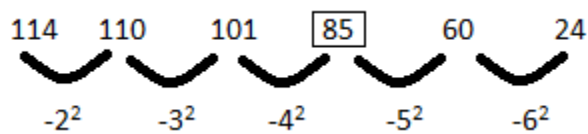
S2. Ans(b)

Sol.



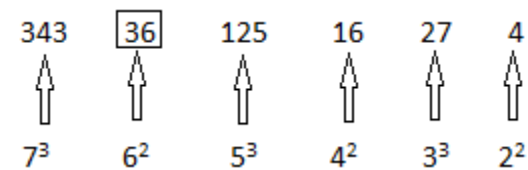
S3. Ans(d)

Sol.



S4. Ans(b)

Sol.



S5. Ans(e)

Sol.

$$\boxed{72} \quad 36 \quad 37 \quad 76 \quad 307 \quad 2460$$

$\underbrace{\hspace{1.5em}}_{X0.5+0} \quad \underbrace{\hspace{1.5em}}_{X1+1} \quad \underbrace{\hspace{1.5em}}_{X2+2} \quad \underbrace{\hspace{1.5em}}_{X4+3} \quad \underbrace{\hspace{1.5em}}_{X8+4}$

S6. Ans.(a)

Sol.

$$\approx 32 + 8 + 31 + x = \frac{25}{100} \times 700$$

$$\approx 71 + x = 25 \times 7$$

$$\approx x = 104$$

S7. Ans.(e)

Sol.

$$\approx 729 + 256 + \sqrt{x} = \frac{20}{100} \times 5000$$

$$\approx \sqrt{x} = 15$$

$$\approx x = 225$$

S8. Ans.(b)

Sol.

$$\approx \frac{75}{100} \times 256 + \frac{40}{\sqrt{x}} = \frac{48}{100} \times 650$$

$$\approx 192 + \frac{40}{\sqrt{x}} = 312$$

$$\approx \frac{40}{\sqrt{x}} = 120$$

$$\approx x = \left(\frac{40}{120}\right)^2$$

$$\approx x = \frac{1}{9}$$

S9. Ans.(c)

$$\text{Sol. } \approx \frac{3}{4} \times 8 + \frac{124}{100} \times 650 = x$$

$$\approx 6 + 806 = x$$

$$\approx x = 812$$

S10. Ans.(e)

$$\text{Sol. } \approx \frac{1700}{\frac{85}{100} \times 125} - \frac{250}{\frac{5}{8} \times 100} \times \sqrt{x} = 0$$

$$\approx 16 - 4\sqrt{x}$$

$$\approx \sqrt{x} = 4$$

$$\approx x = 16$$

S11. Ans(a)

Sol.

$$\text{I. } 3x^2 + 5x + 2 = 0$$

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

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

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

$$\Rightarrow x = -1, -2/3$$

$$\text{II. } 6y^2 - y - 2 = 0$$

$$6y^2 + 3y - 4y - 2 = 0$$

$$3y(2y+1) - 2(2y+1) = 0$$

$$(3y-2)(2y+1)$$

$$\Rightarrow y = 2/3, \frac{-1}{2}$$

So, $y > x$

S12. Ans(c)

$$\text{Sol. I. } 2x - \frac{3}{x} = 5$$

$$\Rightarrow 2x^2 - 3 = 5x$$

$$\Rightarrow 2x^2 - 5x - 3 = 0$$

$$\Rightarrow 2x^2 - 6x + x - 3 = 0$$

$$\Rightarrow 2x(x-3) + 1(x-3) = 0$$

$$\Rightarrow (x-3)(2x+1) = 0$$

$$\Rightarrow x = 3, -1/2$$

$$\text{II. } y^2 - 8y + 15 = 0$$

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

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

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

$$\Rightarrow y = 3, 5$$

So, $y \geq x$

S13. Ans(b)

$$\text{Sol. I. } \sqrt{2x+9} + x = 13$$

$$\Rightarrow \sqrt{2x+9} = 13 - x$$

$$\Rightarrow 2x+9 = (13-x)^2$$

$$\Rightarrow 2x+9 = 169 + x^2 - 26x$$

$$\Rightarrow x^2 - 28x + 160 = 0$$

$$\Rightarrow x^2 - 20x - 8x + 160 = 0$$

$$\Rightarrow x(x-20) - 8(x-20) = 0$$

$$\Rightarrow (x-20)(x-8) = 0$$

$$\Rightarrow x = 8, 20$$

$$\text{II. } y^2 = 16$$

$y = \pm 4$
so, $x > y$.

S14. Ans(e)

$$\begin{aligned}\text{Sol. I. } & \sqrt{7}x^2 - 6x - 13\sqrt{7} = 0 \\ \Rightarrow & \sqrt{7}x^2 - 13x + 7x - 13\sqrt{7} = 0 \\ \Rightarrow & \sqrt{7}x^2 + 7x - 13x - 13\sqrt{7} = 0 \\ \Rightarrow & \sqrt{7}x(x + \sqrt{7}) - 13(x + \sqrt{7}) = 0 \\ = & (\sqrt{7}x - 13)(x + \sqrt{7}) = 0\end{aligned}$$

$$x = \frac{13}{\sqrt{7}}, -\sqrt{7}.$$

$$\begin{aligned}\text{II. } & y^2 - 9y - 36 = 0 \\ & y^2 - 12y + 3y - 36 = 0 \\ & y(y - 12) + 3(y - 12) = 0 \\ & (y - 12)(y + 3) = 0 \\ & y = 12, -3 \\ \text{So, no relation}\end{aligned}$$

S15. Ans(d)

$$\begin{aligned}\text{Sol. I. } & x^2 - 11x + 30 = 0 \\ & x^2 - 5x - 6x + 30 = 0 \\ & x(x - 5) - 6(x - 5) = 0 \\ & (x - 5)(x - 6) = 0 \\ \Rightarrow & x = 5, 6\end{aligned}$$

$$\begin{aligned}\text{II. } & y^2 - 7y + 10 = 0 \\ \Rightarrow & y^2 - 2y - 5y + 10 = 0 \\ \Rightarrow & y(y - 2) - 5(y - 2) = 0 \\ & (y - 5)(y - 2) = 0 \\ \Rightarrow & y = 2, 5. \\ \text{So, } & x \geq y.\end{aligned}$$