Quiz Date: 29th June 2020

Directions (1-5): Find the wrong number in the given series, according to given pattern:

Q1. 539, 566, 597, 636, 691, 780
(a) 691
(b) 780
(c) 566
(d) 539
(e) 636

Q2. 6, 14, 59, 299, 1799, 12599
(a) 14
(b) 299
(c) 1799
(d) 59
(e) 6

Q3. 7, 27, 237, 279, 783, 858
(a) 27
(b) 237
(c) 279
(d) 858
(e) 783

Q4. 37, 150, 306, 511, 763, 1062
(a) 150
(b) 1062
(c) 306
(d) 763
(e) 511

Q5. 4, 2, 3, 6, 16, 70
(a) 6
(b) 2
(c) 3
(d) 70
(e) 16

Directions (6- 15): In the following questions, two equations numbered I and II are given. You have to solve both equations and give answer among the following options.

Q6. I. $x^2 - 5x + 6 = 0$
II. $y^2 - 4y + 4 = 0$
(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

Q7. I. $2x^2 - 7x + 6 = 0$
II. $15y^6 = 960$

(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

Q8. I. $\frac{4}{x\sqrt{x}} + \frac{12}{x\sqrt{x}} = \sqrt{x}$
II. $y^2 - 13y + 36 = 0$

(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

Q9. I. $4x^2 + 18x - 10 = 0$
II. $y^{\frac{2}{5}} - \frac{25}{y^{\frac{8}{5}}} = 0$

(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. $\sqrt[3]{343}x + \sqrt{169} = 0$
II. $49y^2 - 182y + 169 = 0$

Q10.
(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. $2x^2 - x - 231 = 0$
II. $2y^2 + 43y + 231 = 0$

Q11.
(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. $55x^2 - 495x + 1100 = 0$
II. $5y^2 + 10y - 120 = 0$

Q12.
(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. $9x^2 - 94.5x + 243 = 0$
II. $4.5y^2 - 13.5y - 486 = 0$

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. $x^2 - 87x - 270 = 0$
II. $7y^2 - 11y - 18 = 0$

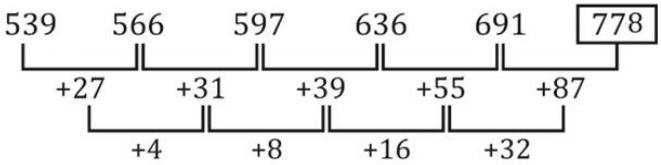
Q14.
(a) if x > y
(b) if x ≥ y
(c) if x < y
(d) if x ≤ y
(e) if x = y or the relationship cannot be established.

I. $x^2 - 19x + 84 = 0$
II. $y^2 - 25y + 156 = 0$

Q15.
(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.

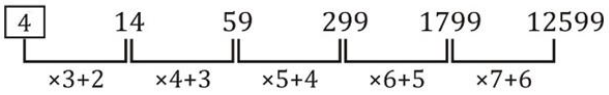
Solutions

S1. Ans.(b)
Sol.
Pattern of series is —



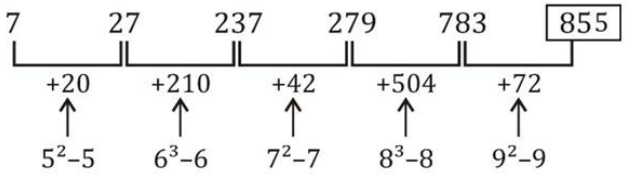
Wrong number = 780
Right number → 691 + 87 = 778

S2. Ans.(e)
Sol.
Pattern of series is —



So wrong number = 6
Right number = $\frac{14-2}{3}$ = 4

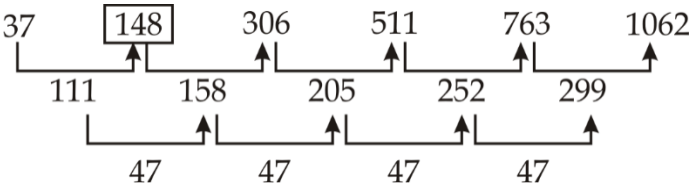
S3. Ans.(d)
Sol.



Wrong number is —858
Right number = 783 + (9^2 – 9) = 855

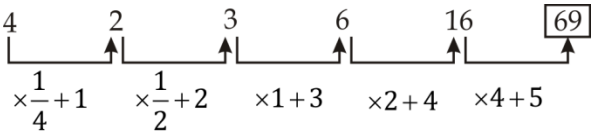
S4. Ans.(a)

Sol.
Pattern is —



Wrong number is — 150

S5. Ans.(d)
Sol.
Pattern is —



Wrong number = 70

S6. Ans.(c)
Sol.
I. $x^2 - 5x + 6 = 0$
$(x-3)(x-2) = 0$
$\Rightarrow x = 3, 2$
II. $y^2 - 4y + 4 = 0$
$y = 2, 2$
$x \geq y$

S7. Ans.(e)
Sol.

I. $2x^2 - 7x + 6 = 0$
$\Rightarrow 2x^2 - 4x - 3x + 6 = 0$
$\Rightarrow (2x - 3)(x - 2) = 0$
$\Rightarrow x = 2, \frac{3}{2}$
II. $y^6 = 64$
$y = \pm 2$
No relation

S8. Ans.(d)
Sol.
I. $x^2 = 16$
$\Rightarrow x = \pm 4$
II. $y^2 - 13y + 36 = 0$
$\Rightarrow (y - 4)(y - 9) = 0$
$\Rightarrow y = 4, 9$
$y \geq x$

S9. Ans.(e)
Sol.
I. $4x^2 + 18x - 10 = 0$
$2x^2 + 9x - 5 = 0$
$\Rightarrow 2x^2 + 10x - x - 5 = 0$
$\Rightarrow (x + 5)(2x - 1) = 0$
$\Rightarrow x = -5, \frac{1}{2}$
II. $y^{\frac{2}{5}} - \frac{25}{y^{\frac{8}{5}}} = 0$
$y^2 = 25$
$\Rightarrow y = \pm 5$
No relation

S10. Ans.(b)
Sol.
I. $7x + 13 = 0$
$\Rightarrow x = -\frac{13}{7}$
II. $(7y - 13)^2 = 0$
$\Rightarrow y = \frac{13}{7}$
$y > x$

S11. Ans.(b)

Sol.

I. $2x^2 - x - 231 = 0$

$\Rightarrow 2x^2 - 22x + 21x - 231 = 0$

$\Rightarrow 2x(x - 11) + 21(x - 11) = 0$

$\Rightarrow (x - 11)(2x + 21) = 0$

$\Rightarrow x = 11, \frac{-21}{2}$

II. $2y^2 + 43y + 231 = 0$

$\Rightarrow 2y^2 + 22y + 21y + 231 = 0$

$\Rightarrow 2y(y + 11) + 21(y + 11) = 0$

$\Rightarrow (y + 11)(2y + 21) = 0$

$\Rightarrow y = -11, \frac{-21}{2}$

$x \geq y$

S12. Ans.(b)

Sol.

I. $55x^2 - 495x + 1100 = 0$

$x^2 - 9x + 20 = 0$

$\Rightarrow x^2 - 5x - 4x + 20 = 0$

$\Rightarrow (x - 5)(x - 4) = 0$

$\Rightarrow x = 5, 4$

II. $5y^2 + 10y - 120 = 0$

$\Rightarrow y^2 + 2y - 24 = 0$

$\Rightarrow y^2 + 6y - 4y - 24 = 0$

$\Rightarrow (y + 6)(y - 4) = 0$

$\Rightarrow y = 4, -6$

$x \geq y$

S13. Ans.(e)

Sol.

I. $9x^2 - 94.5x + 243 = 0$
$\Rightarrow x^2 - 10.5x + 27 = 0$
$\Rightarrow x^2 - 6x - 4.5x + 27 = 0$
$\Rightarrow (x - 6)(x - 4.5) = 0$
$\Rightarrow x = 6, 4.5$
II. $4.5y^2 - 13.5y - 486 = 0$
$\Rightarrow y^2 - 3y - 108 = 0$
$\Rightarrow y^2 - 12y + 9y - 108 = 0$
$\Rightarrow (y - 12)(y + 9) = 0$
$\Rightarrow y = 12, -19$
No relation

S14. Ans.(e)
Sol.
I. $x^2 - 87x - 270 = 0$
$\Rightarrow x^2 - 90x + 3x - 270 = 0$
$\Rightarrow x(x - 90) + 3(x - 90) = 0$
$\Rightarrow (x - 90)(x + 3) = 0$
$\Rightarrow x = 90, -3$
II. $7y^2 - 11y - 18 = 0$
$\Rightarrow 7y^2 - 18y + 7y - 18 = 0$
$\Rightarrow y(7y - 18) + 1(7y - 18) = 0$
$\Rightarrow (7y - 18)(y + 1) = 0$
$\Rightarrow y = -1, \frac{18}{7}$
No relation

S15. Ans.(d)
Sol.
I. $x^2 - 19x + 84 = 0$
$\Rightarrow x^2 - 12x - 7x + 84 = 0$
$\Rightarrow (x - 12)(x - 7) = 0$
$\Rightarrow x = 12, 7$
II. $y^2 - 25y + 156 = 0$
$\Rightarrow y^2 - 13y - 12y + 156 = 0$
$\Rightarrow (y - 13)(y - 12) = 0$
$\Rightarrow y = 13, 12$
$y \geq x$