

Quiz Date: 18th July 2020

Directions (1-5): In the following number series only one number is wrong. Find out the wrong number.

Q1. 9050, 5675, 3478, 2147, 1418, 1077, 950

- (a) 950
- (b) 1418
- (c) 5675
- (d) 2147
- (e) 1077

Q2. 1, 4, 25, 256, 3125, 46656, 823543

- (a) 4
- (b) 823543
- (c) 46656
- (d) 25
- (e) 256

Q3. 380, 188, 92, 48, 20, 8, 2

- (a) 8
- (b) 20
- (c) 48
- (d) 188
- (e) 380

Q4. 8, 4, 4, 8, 32, 136, 812

- (a) 8
- (b) 136
- (c) 32
- (d) 812
- (e) 4

Q5. 3, 11, 49, 191, 569, 1135, 1134

- (a) 1135
- (b) 1134
- (c) 3
- (d) 49
- (e) 11

Q6. 23, 30, 42, 63, 95, 140, 200

- (a) 42
- (b) 140
- (c) 30
- (d) 200
- (e) 23

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Directions (7-10): Compare the value of 2 quantities given in the question and give answer

- (a) if quantity I > quantity II
- (b) if quantity I < quantity II
- (c) if quantity I \geq quantity II
- (d) if quantity I \leq quantity II
- (e) if quantity I = quantity II or no relation can be established

Q7. Quantity I — the sum of money (in Rs) for which the difference between SI and CI obtained on it in 2 years at 6% per annum is Rs. 43.2.

Quantity II — Rs. 12850

Q8. Quantity I — average income (in Rs) of the whole group of 75 people, if average income of the men in the group is Rs. 4200 and that of women is Rs. 4000. (total men : total women = 8 : 7)

Quantity II — the average income (in Rs) of 20 people, which decreases by Rs. 150 if a person with income of Rs. 1000 joins them.



Q9. Quantity I — The distance (in km) of school from Aman's house, if he reaches school 5 minutes late when walking at 4 km/hr but 10 minutes earlier than scheduled time when walking at 5 km/hr.

Quantity II — 5 km

Q10. Quantity I — Product of 2 numbers, whose sum is 17 and sum of the squares of 2 no. is 145.

Quantity II — Sum of 2 numbers, whose product is 1400 and difference between them is 5.

Directions (11-15) :In each of these questions, two equations are given. You have to solve these equations and find out the values of x and y and-

Give answer

- (a) If $x > y$
- (b) If $x \geq y$
- (c) If $x < y$
- (d) If $x \leq y$
- (e) If $x = y$ or relationship cannot be established

Q11. I. $16x^2 + 20x + 6 = 0$

II. $10y^2 + 38y + 24 = 0$

Q12. I. $18x^2 + 18x + 4 = 0$

II. $12y^2 + 29y + 14 = 0$

Q13. I. $8x^2 + 6x = 5$

II. $12y^2 - 22y + 8 = 0$

Q14. I. $17x^2 + 48x = 9$

II. $13y^2 = 32y - 12$

Q15. I. $4x + 7y = 209$

II. $12x - 14y = -38$

Solutions

S1. Ans.(e)

Sol.

The pattern of the number series is :

$$9050 - 15^3 = 9050 - 3375 = 5675$$

$$5675 - 13^3 = 5675 - 2197 = 3478$$

$$3478 - 11^3 = 3478 - 1331 = 2147$$

$$2147 - 9^3 = 2147 - 729 = 1418$$

$$1418 - 7^3 = 1418 - 343 = 1075$$

So, there should be 1075 instead of 1077

S2. Ans.(d)

Sol. The pattern of the number series is :

$$1 = 1$$

$$2^2 = 4$$

$$3^3 = 27 \text{ not } 25$$

$$4^4 = 256$$

$$5^5 = 3125$$

$$6^6 = 46656 \dots\dots$$

S3. Ans.(c)

Sol.

$$380 \div 2 - 2 = 188$$

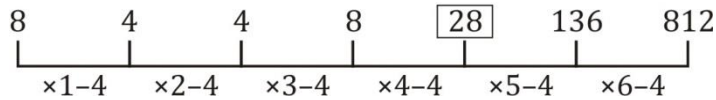
$$188 \div 2 - 2 = 92$$

$$92 \div 2 - 2 = 44 \text{ [Not 48]}$$

$$44 \div 2 - 2 = 20$$

S4. Ans.(c)

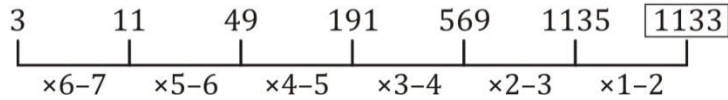
Sol. The wrong no. is 32



So, there should be 28 instead of 32.

S5. Ans.(b)

Sol. The wrong no. is 1134

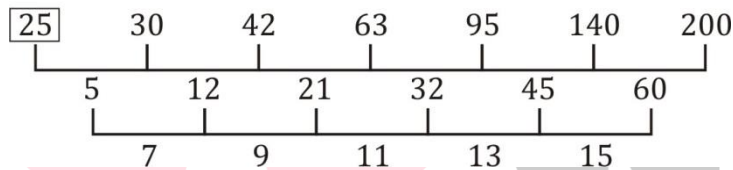


So, there should be 1133 instead of 1134.



S6. Ans.(e)

Sol. The wrong no. is 23



So, there should be 25 instead of 23.

S7. Ans.(b)

Sol. **Quantity I** — $\frac{P(6)^2}{(100)^2} = 43.2$

P = 12000 Rs.

Quantity II — Rs. 12850

Quantity I < Quantity II

S8. Ans.(b)

Sol. **Quantity I** — men → 40, women → 35

Average = $\frac{40 \times 4200 + 35 \times 4000}{75} = 4106\frac{2}{3}$ Rs.

Quantity II — Let the average = x

$\frac{20x + 1000}{21} = (x - 150), x = 4150$ Rs.

quantity I < quantity II

S9. Ans.(e)

Sol. let distance be x km.

$$\frac{x}{4} - \frac{x}{5} = \frac{15}{60}, x = 5 \text{ km}$$

Quantity I = Quantity II

S10. Ans.(e)

Sol. Quantity I — $x + y = 17$ (i)

$x^2 + y^2 = 145$ (ii)

Squaring both side in eq (i)

$$x^2 + y^2 + 2xy = 289$$

$$x^2 + y^2 = 145$$

$$xy = \frac{144}{2} = 72$$

Quantity II — $x(x + 5) = 1400$

$$x^2 + 5x - 1400 = 0$$

$$x = -40, 35$$

So, $y = -35$ and 40

Therefore, required sum = -75 or 75 .

So, can't determine.

S11. Ans.(a)

Sol. I. $8x^2 + 10x + 3 = 0$

$$8x^2 + 4x + 6x + 3 = 0$$

$$4x(2x + 1) + 3(2x + 1) = 0$$

$$(4x + 3)(2x + 1) = 0$$

$$x = -\frac{3}{4}, -\frac{1}{2}$$

II. $5y^2 + 19y + 12 = 0$

$$5y^2 + 15y + 4y + 12 = 0$$

$$5y(y + 3) + 4(y + 3) = 0$$

$$(5y + 4)(y + 3) = 0$$

$$y = -3, -\frac{4}{5}$$

so, $x > y$

S12. Ans.(b)

Sol. I. $9x^2 + 9x + 2 = 0$

$$9x^2 + 6x + 3x + 2 = 0$$

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

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

$$x = -\frac{2}{3}, -\frac{1}{3}$$

II. $12y^2 + 21y + 8y + 14 = 0$

$$3y(4y + 7) + 2(4y + 7) = 0$$

$$(4y + 7)(3y + 2) = 0$$

$$y = -\frac{7}{4}, -\frac{2}{3}$$

so, $y \leq x$

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S13. Ans.(d)

Sol. I. $8x^2 + 10x - 4x - 5 = 0$

$$2x(4x + 5) - (4x + 5) = 0$$

$$(2x - 1)(4x + 5) = 0$$

$$x = -\frac{5}{4}, \frac{1}{2}$$

II. $6y^2 - 11y + 4 = 0$

$$6y^2 - 8y - 3y + 4 = 0$$

$$2y(3y - 4) - (3y - 4) = 0$$

$$(2y - 1)(3y - 4) = 0$$

$$y = \frac{4}{3}, \frac{1}{2}$$

so, $x \leq y$

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S14. Ans.(c)

Sol. I. $17x^2 + 51x - 3x - 9 = 0$

$$17x(x + 3) - 3(x + 3) = 0$$

$$(17x - 3)(x + 3) = 0$$

$$x = -3, \frac{3}{17}$$

II. $13y^2 - 26y - 6y + 12 = 0$

$$13y(y - 2) - 6(y - 2) = 0$$

$$(13y - 6)(y - 2) = 0$$

$$y = 2, \frac{6}{13}$$

so, $x < y$

S15. Ans.(e)

Sol. I multiply by 2 and equate with II.

$$418 - 8x = 12x + 38$$

$$20x = 380$$

$$x = 19 \text{ and } y = 19$$

so, $x = y$

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