

Q5. The total number of truck tires manufactured in April is $4x+3$ and the total number of bus tires manufactured in April is 33.33% less than that of truck tires.

Quantity I: Total number of tires (bus + truck) manufactured in June.

Quantity II: Total number of bus tires and truck tires together sold and in April.

- (a) Quantity I > Quantity II
- (b) Quantity I < Quantity II
- (c) Quantity I $\geq$ Quantity II
- (d) Quantity I $\leq$ Quantity II
- (e) Quantity I = Quantity II or no relation

Q6. Which of the following is true?

Statement I: The total number of tires manufactured in May is 192.

Statement II: The total number of tires manufactured in June is 192.

- (a) Only I
- (b) Both together
- (c) Neither I nor II
- (d) Either I or II
- (e) Only II

Q7. The total number of tires sold in April is 204 and the total number of tires sold in May is 180. Find the difference between the total number of tires (bus + truck) manufactured in April and the number of unsold bus tires in May.

- (a) 84
- (b) 204
- (c) Can't be determined
- (d) 180
- (e) None of the above

Q8. The difference between the total number of tires (bus + truck) manufactured in June and April is $(x+2)^2$, and the total number of bus tires sold in May is 120 more than that of the truck. Find the total number of unsold tires (bus + truck) in May.

- (a) $(x/2)^2$
- (b) $(x - 12)^3$
- (c) $3888/x$
- (d) Both (a) & (c)
- (e) Both (b) & (c)

Directions (9-11): Read the following information carefully and answer the questions given below. The information is about the total number of students (boys and girls) registered in an exam in three years.

2021: 90% of the total number of students appeared in the exam out of the total number of students registered in the exam.

2022: 75% of the total number of students registered for the exam out of the total number of students appeared in the exam in 2021.

2023: 20% of the total number of students did not appear in the exam out of the total number of students registered in the exam.

Q9. The total number of students registered in the exam in 2021 is 140. Find the total number of students who appeared in the exam in 2021.

- (a) 126
- (b) 128
- (c) 320
- (d) 303
- (e) 299

Q10. The total number of students registered in the exam in 2021 is 140. If the total number of students who appeared in the exam in 2022 is 140, find the total number of students who did not appear in the exam in 2022.

- (a) 290
- (b) 320
- (c) 303
- (d) 326
- (e) 300

Q11. The total number of students appeared in 2021 is 720, and the total number of students registered in 2023 is 20% less than that in 2021. If the total number of students appeared in 2022 is half that in 2023, then find the total number of students who did not appear in 2022.

- (a) 280
- (b) 274
- (c) 291
- (d) 267
- (e) 254

Solutions

S1. Ans.(b)

Sol. The smallest prime number = 2

$$a = 2$$

Series P: 2, 2 + 2, 2(2) - 2, 3(2), 2, 3(2) + 2, 1.5(2) - 1

Series P: 2, 4, 2, 6, 2, 8, 2

The pattern of the series:

$$\begin{array}{ccccccc} 2, & 4, & 2, & 6, & 2, & 8, & 2 \\ \times 2 & \div 2 & \times 3 & \div 3 & \times 4 & \div 4 \end{array}$$

Fourth term of the series = 6

S2. Ans.(d)

Sol. The pattern

$$16X, 48000$$

$$16X, 48000, 16000, 4000, Y, \frac{400}{3}$$

$$\times \frac{1}{2} \quad \times \frac{1}{3} \quad \times \frac{1}{4} \quad \times \frac{1}{5} \quad \times \frac{1}{6}$$

$$16X \times \frac{1}{2} = 48000$$

$$16X = 96000$$

$$X = 6000$$

$$4000 \times \frac{1}{5} = Y$$

$$800 = Y$$

Required value

$$= \frac{6000}{3} - 1.5(800)$$

$$= 2000 - 1200$$

$$= 800$$

S3. Ans.(e)

Sol. $x^2 - 6x + 9$

$$x^2 - 3x - 3x + 9$$

$$x = 3, 3$$

$$n = 3$$

The pattern of

$$n, (n+1), (n+2)$$

$$3, 4, 25, 56, 92, m$$

$$1, 21, 31, 36, 38.5$$

$$20, 10, 5, 2.5$$

$$\div 2 \quad \div 2 \quad \div 2$$

$$m = 92 + 38.5$$

$$m = 130.5$$

Sol. (4-8)

Given,

$$5x + 4.5x + 27 + 10x - 18 = 360$$

$$19.5x = 351$$

$$x = 18$$

Degree of total number of tires (bus + truck) manufactured in April = 90 degree

Degree of total number of tires (bus + truck) manufactured in May = 108 degree

Degree of total number of tires (bus + truck) manufactured in April = 162 degree

S4. Ans.(d)

Sol. Let the total number of tires (bus + truck) manufactured all three months together be 180a

The ratio of bus tires manufactured and truck tires

$$612 : 117 = 12 : 1$$

Let the number of bus tires manufactured be 12a and the number of truck tires manufactured be 11a

$$12a + 11a = 180a \Rightarrow 23a = 180a \Rightarrow a = \frac{180}{23}$$

$$12a = 12 \times \frac{180}{23} = \frac{2160}{23}$$

$$11a = 11 \times \frac{180}{23} = \frac{1980}{23}$$

$$a = \frac{180}{23}$$

The total number of tires manufactured all three months together be 180a

1. Total number of tires manufactured in June > 225

Total number of tires manufactured in June = 162

It is correct.

Total number of truck tires manufactured in May < 68.

$$= 11a = 11 \times \frac{180}{23} = \frac{1980}{23}$$

It is correct.

It is correct.

S5. Ans.(a)

Sol. The total number of truck tires manufactured in April = $4x + 3 = 4(18) + 3 = 75$

The total number of bus tires manufactured in April = $75 \times \frac{2}{3} = 50$

Let the total number of tires (bus + truck) manufactured all three months together be 180a

$$180a \times \frac{90}{360} = (75 + 50)$$

$$45a = 125$$

$$a = 125/45$$

S10. Ans.(e)**Sol.** Given,

$$13.5x - 10x = 14$$

$$x = 4$$

Total number of students registered in 2021 = $100x = 400$ Number of students did not appeared 2022 = $67.5(4) - 140$
 $= 130$ Required average = $(400 + 130)/2 = 265$ Total number of students appeared in 2022 = $532/2 = 266$ Total number of students registered in 2022 = $67.5(8) = 540$ Total number of students did not appeared in 2022
 $= 540 - 266 = 274$ **S11. Ans.(b)****Sol.** $90x = 720$

$$x = 8$$

Total number of students registered in 2023

$$= \frac{80}{100} \times 100 \times 8$$

Total number of students appeared in 2023

$$= 13.5 \times 8 = 108$$

Total number of students registered in 2022

$$= 640 - 108 = 532$$

