**Quiz Date: 17th July 2020**

Directions (1-5): Study the following pie chart and line chart carefully to answer the following questions. Pie chart shows the percentage distribution of pairs of shoes manufactured by 5 shoe manufacturers and line chart shows the number of pair of formal shoes manufactured by these manufacturers.

Note: Total pair of shoes manufactured = Total pair of formal shoes manufactured + Total pair of casual shoes manufactured.
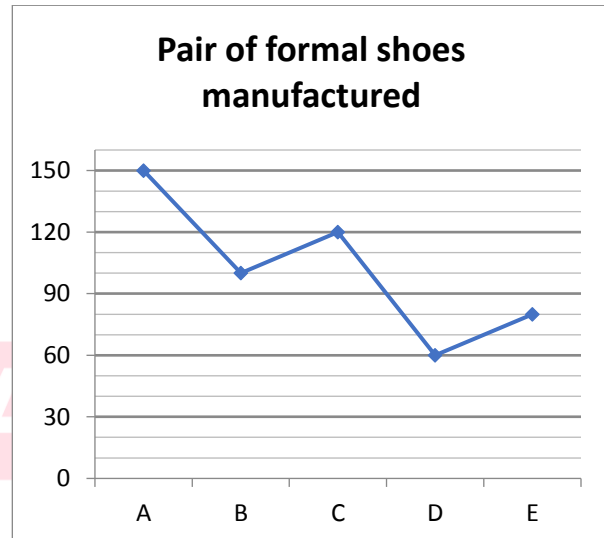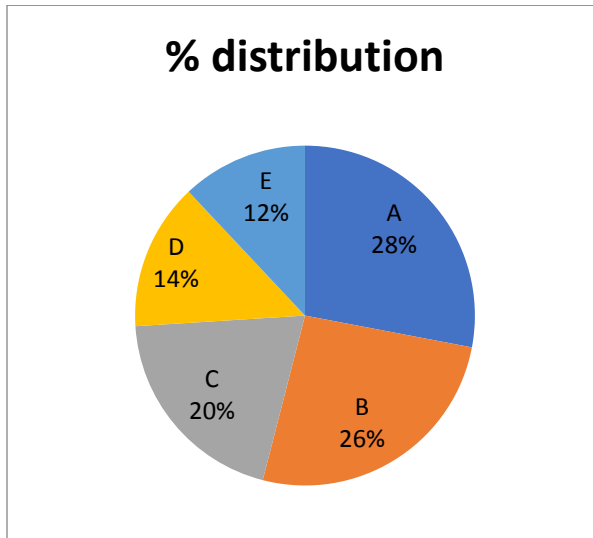
Q1. Manufacturer-B sold all pair of shoes manufactured by him and he had earned 20% profit on selling all the pairs. Total revenue of manufacturer–B is Rs. 11856 and average cost of manufacturing one pair of formal shoes is Rs.26. If pair of shoes manufactured by manufacture-A is 280, then find average cost price of a pair of casual shoes for manufacturer B.
(a) Rs. 38.5
(b) Rs. 45.5
(c) Rs. 50.5
(d) Rs.62.5
(e) Rs.89.5

Q2. Number of pairs of casual shoes manufactured by manufacturer-A & B together is 310 more than the number of pairs of formal shoes manufactured by manufacturer-A & B together. Then, find difference in total pairs of shoes manufactured by manufacturer-E and manufacturer-C
(a) 150
(b) 100
(c) 190
(d) 120
(e) 230

Q3. Average of number of pairs of shoes manufactured by all manufacturers is 280. Then, find pairs of casual shoes manufactured by manufacturer-A & E together is approximately what percent more or less than number of pairs of formal shoes manufactured by manufacturer-C & D together?
(a) 95%
(b) 81%
(c) 74%
(d) 89%
(e) 83%.

Q4. Ratio of number of pairs of formal shoes to pairs of casual shoes manufactured by manufacturer-C is 4 : 5. Then, find ratio of total number of pairs of formal shoes manufactured by manufacturer-B, C and E together to pairs of casual shoes manufactured by manufacturer-A & D together.
(a) 91 : 99
(b) 112 : 113
(c) 100 : 119
(d) 121 : 126
(e) None of the above.
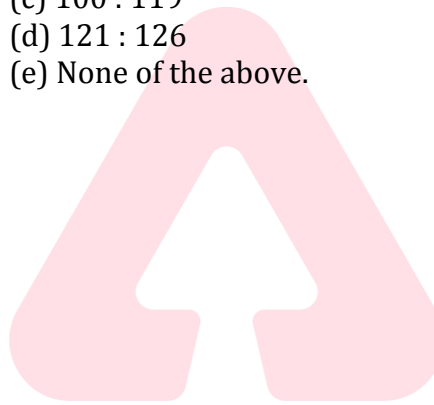
Q5. Find the central angle (in degrees) disclosed by manufacturer-A & C together.
(a) 160
(b) 152.4
(c) 166.8
(d) None of the above
(e) 171.2

Directions(6-10): The following questions are accompanied by three statements (A) or (I), (B) or (II), and (C) or (III). You have to determine which statements(s) is/are sufficient/necessary to answer the questions.

Q6. In a bag there are 9 white and 12 red and black balls. Find the number of red balls in that bag?
I. When 1 black ball is thrown away then probability of 2 black balls from the bag is 1/19.

II. When 6 white ball is taken away from the bag then probability of taking 1 red ball from the bag is 2/5.

III. Probability of choosing one black is equal to the probability of choosing one red balls from the bag.

(a) Only I and III

(b) Only II

(c) Only I and II

(d) All I, II and III

(e) Any one of three statements

Q7. A shopkeeper gets a loss of Rs.70 when he sold an article at 20% discount on M.P. Find cost price of Article.

I. % of mark up above cost price is equal to % discount given on M.P.

II. When no discount is given, article sold at profit of Rs 350.

III. Ratio of selling price to marked price is 4:5.

(a) Only I

(b) Only II

(c) Either Only I or Only II

(d) I and II together

(e) Any of the statements

Q8.   What is the sum of four numbers?

I. The biggest no. is 10 more than the 2nd smallest number.

II. The sum of smallest and biggest number is 2 less than the sum of other two numbers.

III. The ratio of biggest number to the smallest number is 6:5.

(a) Only II & III

(b) Only I & II

(c) Any two of the three statements

(d) All statement is required

(e) None of these

Q9. What is the speed of a train?

I. The train crosses a signal pole in 18 secs.

II. The train crosses a platform of equal length in 36 secs.

III. Length of the train is 330 metres.

(a) I and III only

(b) II and III only

(c) I and II only

(d) III and either I or II only

(e) Any two of the three

Q10. What is the difference between two numbers X and Y?

I. X is 20 per cent more than another number Z.

II. Y is 20 per cent less than Z.

III. The sum of Y and Z is 72.
(a) Only I and II are required
(b) Only I and III are required
(c) All I, II and III together are required
(d) Any two of I, II and III are required
(e) Even with all I, II and III together the answer cannot be arrived at

Directions (11-15): What will come in place of questions mark (?) in the following questions ?

Q11. $(3024 \div 189)^{\frac{1}{2}} + (684 \div 19)^2 = (?)^2 + 459$
(a) 27
(b) 29
(c) 31
(d) 841
(e) 1089

Q12. 4.4 times of $\frac{5}{16}$ of 30% of 216 = ?
(a) 81.9
(b) 83.7
(c) 87.3
(d) 89.1
(e) 85.7

Q13. $(1.06 + 0.04)^2 - ? = 4 \times 1.06 \times 0.04$
(a) 1.0402
(b) 1.4
(c) 1.5
(d) 1.032
(e) none of these

Q14. $\frac{0.538 \times 0.5380 - 0.462 \times 0.462}{1 - 0.924} = ?$
(a) 2
(b) 1.08
(c) 0.076

(d) 0.987
(e) 1

Q15. $27^2 \times 6 \div 9 + 7^3 + 71 = (?)^3 - 431$
(a) 11
(b) 13^3
(c) 13
(d) 11^2
(e) 11^3

Solutions

S1. Ans.(b)
Sol. Cost Price of all pair of shoes manufactured by manufactures – B = $11856 \times \frac{100}{120}$ = Rs. 9880
Let cost price of 1 pair of casual shoes manufactured by manufacturer – B be Rs. 'x'
Total pair of shoes manufactured by manufactures – B = $280 \times \frac{100}{28} \times \frac{26}{100}$ = 260
ATQ,
100 × 26 + x × (260 – 100) = 9880
$\Rightarrow$ x = $\frac{9880 - 2600}{160}$ = 45.5 Rs.

S2. Ans.(d)
Sol. Total pairs of shoes manufactured by manufacture – A & B together = (150 + 100) + (150 + 100 + 310) = 810
Total pairs of shoes manufactured by all 5 manufactures
= $810 \times \frac{100}{(28 + 26)}$ = 1500
Required difference = $1500 \times \frac{20}{100} - 1500 \times \frac{12}{100}$ = 300 – 180 = 120

S3. Ans.(e)
Sol. total number of pairs of shoes manufactured by all manufactures = 280 × 5 = 1400
Pairs of casual shoes manufactured by manufactures – A & E together
= $\left(1400 \times \frac{28}{100} - 150\right) + \left(1400 \times \frac{12}{100} - 80\right)$ = 242 + 88 = 330
Pairs of formal shoes manufactured by manufactures – C & D together = 120 + 60 = 180
Required % = $\frac{330 - 180}{180} \times 100$
= $\frac{150}{180} \times 100$
= $\frac{250}{3}$ %
= 83.33%
= 83% (Approx..)

S4. Ans.(c)
Sol. ATQ,
Pairs of Casual shoes manufactured by manufactures – C = $120 \times \frac{5}{4}$ = 150

Total pairs of shoes manufactured by all manufactures = $(120 + 150) \times \frac{100}{20} = 1350$

Total pairs of formal shoes manufactured by manufactures – B, C & E together = $(100 + 120 + 80) = 300$

Total pairs of casual shoes manufactured by manufactures – A & D together

$= \left(1350 \times \frac{28}{100} - 150\right) + \left(1350 \times \frac{14}{100} - 60\right) = 228 + 129 = 357$

Required ratio $= \frac{300}{357} = 100 : 119$

S5. Ans.(d)

Sol. Required angle $= \frac{(28 + 20)}{100} \times 360 = 172.8°$

S6. Ans.(e)

Sol.

Total number of balls= 9+12=21 balls

Let number of red balls in the bag be x then number of black balls = 12-x

We can find number of red balls from any of the three statements.

S7. Ans.(c)

Sol.

From I

Discount % = 20% = Mark up%

If cost price is 100x then Markup price 120x and selling price is → 96x

So ATQ,

100x – 96x = 70

$C.P = 100x = \frac{70}{4x} \times 100x = 1750$

From II

Let mark up price is → 100x

Then selling price is → 80x

ATQ,

100x – 80x = 350 + 70

20x = 420

100x = 2100

80x = 1680

C.P. → 1680 + 70 = 1750

So, Either I or II alone required.

S8. Ans.(e)
Sol.
Let the four numbers be 'a', 'b', 'c' and 'd' with 'a' being the smallest, 'b' being the second smallest, 'c' being the second largest and 'd' being the largest number
From I, II and III
(a + d)-2= (b + c)
$\frac{d}{a} = \frac{6}{5}$
And
    d-10= b
Here, there are 3 equations and four variables.
So can't be determined

S9. Ans. (d)
Sol. From I, $s = \frac{\ell}{18}$
II, $S = \frac{2\ell}{36}$
III, $\ell = 330$ m
∴ III and either I or II only

S10. Ans. (c)
Sol. From I, $x = \frac{20z}{100} + z = \frac{120z}{100}$
        II, $y = z - \frac{20z}{100} = \frac{80z}{100}$
        III, $y + z = 72$
To find $(x - y)$, all statements are necessary

S11. Ans.(b)
Sol. $(16)^{\frac{1}{2}} + (36)^2 = (?)^2 + 459$
or, $(?)^2 = 1296 + 4 - 459 = 841$
or, $? = \pm 29$

S12. Ans.(d)
Sol. $? = \frac{44}{10} \times \frac{5}{16} \times \frac{30}{100} \times 216 = 89.1$

S13. Ans.(e)
Sol. $(1.1)^2 - (4.24 \times 0.04) = ?$
$? = 1.0404$

S14. Ans.(e)
Sol. $\frac{(0.538+0.462) \times (0.538-0.462)}{0.076} = ?$
$\frac{1 \times 0.076}{0.076} = ?$

? = 1

S15. Ans.(a)

Sol. $?^3 = \frac{729 \times 6}{9} + 343 + 72 + 431 = 1331$

or, ? = 11

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