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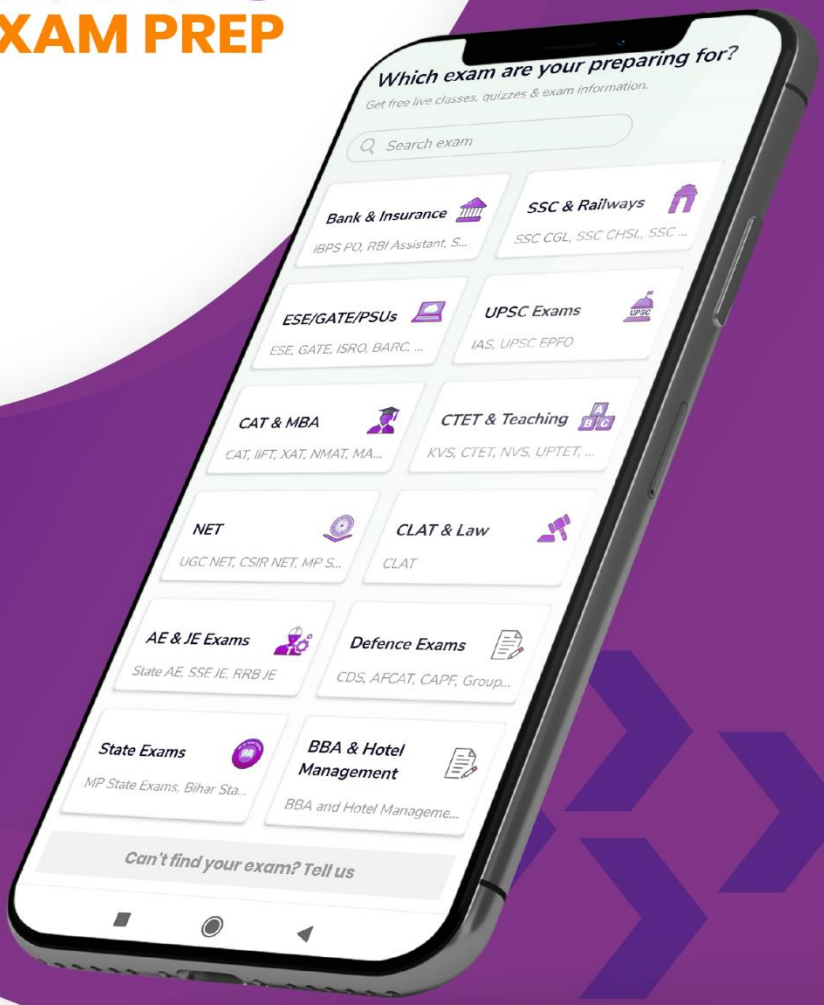

SSC GD Constable Maths Questions PDF (English)

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1.Two positive number are in the ratio of 7 : 4. If the difference between their squares is 297, then the sum of the two numbers is:

A. 35

B. 33

C. 32

D. 42

Ans: B

Sol:

Let the number be 7x and 4x respectively.

According to the question,

$$(7x)^2-(4x)^2=297$$
$$\Rightarrow 49x^2-16x^2=297$$
$$\Rightarrow 33x^2=297$$
$$\Rightarrow x^2=\frac{297}{33}=9$$
$$\therefore x=\sqrt{9}=3$$

Sum of the numbers = 7x + 4x = 11x = 11 × 3 = 33

2.The sum of two numbers m and n is 84 (m > n) and their difference is 6. What is the ratio of the two numbers?

A. 4 : 3

B. 17 : 15

C. 9 : 8

D. 15 : 13

Ans: D

Sol:

m + n = 84 .....(i)

m – n = 6 .....(ii)

adding equation (i) and (ii)

m + n + m – n = 84 + 6

or, 2m = 90

m = 90/2 = 45

n = 84 – 45 = 39

Hence, m : n = 45 : 39 = 15 : 13

3.If a sum of ₹ 6225 is divided into three parts such that 4 times the first part is equal to 5 times the second part and 7 times the third part. The difference between the first and second part (in ₹) is:

A. 525

B. 300

C. 600

D. 450

Ans: A

Sol:

4 × first part = 5 × Second part = 7 × third part = k (let)

First part = k/4

Second part = k/5

Third part = k/7

ATQ,

$$\frac{k}{4}+\frac{k}{5}+\frac{k}{7}=6225$$

$$\Rightarrow \frac{35k+28k+20k}{140}=6225$$

$$\Rightarrow \frac{83k}{140}=6225$$

$$\Rightarrow k=\frac{6225\times 140}{83}=10500$$

First part = k/4 = 10500/4 = Rs. 2625

Second part = k/5 = 10500/5 = Rs. 2100

Required difference = Rs. 2625 – Rs. 2100 = Rs.525

4.The average of two numbers is 13 and the square root of their product is 12, then the difference between the numbers is :

A. 10

B. 18

C. 8

D. 12

Ans: A

Sol:

Average of two numbers = 13

Sum of two numbers = 13 × 2 = 26

Let the number be x and 26 – x

According to the question,

$\sqrt{x(26-x)}=12$

$\Rightarrow x(26-x)=12^2=144$

$\Rightarrow 26x-x^2-144=0$

$\Rightarrow x^2-26x+144=0$

$\Rightarrow x^2-18x-8x+144=0$

$\Rightarrow x(x-18)-8x(x-18)=0$

$\Rightarrow (x-18)(x-8)=0$

$\therefore x=18,8$

Difference between number = 18 – 8 = 10

5.If 15 apples cost as much as 6 strawberries, 2 strawberries cost as much as 16 bananas, 6 bananas cost as much as 15 potatoes, then what is the cost of 1 potato if an apple costs ₹20?

A. ₹25

B. ₹22.50

C. ₹2.50

D. ₹2.25

Ans: C

Sol:

ATQ, an apple costs ₹20.

So, Cost price of 15 apples = 15 × 20 = ₹300

Also, 15 apples cost as much as 6 strawberries.

Cost price of 6 strawberries = ₹300

Cost price of 2 strawberries = (300/6)×2 = ₹100

Now, 2 strawberries cost as much as 16 bananas.

Cost price of 16 bananas = ₹100

Cost price of 6 bananas = (100/16)×6 = ₹37.5

And 6 bananas cost as much as 15 potatoes.

Cost price of 15 potatoes = ₹37.5

Cost price of a potato = 37.5/15 = ₹2.5

6.A bag has Rs.840 in the denomination of Rs.1, Rs.2 and Rs.5 coins. Rs.1, Rs.2 and Rs.5 coins are in the ratio of 8 : 1 : 5. How many coins of Rs.5 are in the bag?

A. 60

B. 24

C. 600

D. 120

Ans: D

Sol:

Let the denomination of Rs.1, Rs.2, and Rs.5 coins are 8x, x and 5x respectively.

∴ According to the question,

⇒ 1×8x + 2×x + 5×5x = 840

⇒ 8x + 2x + 25x = 840

⇒ 35x = 840

⇒ x = 840/35 = 24

So, Number of Rs.5 coins = 24×5 = 120

7.What percentage of numbers from 1 to 80 have 1 or 9 in the unit digit?

A. 1%

B. 20%

C. 21%

D. 14%

Ans: B

Sol:

We have a total of 80 numbers from 1 to 80.

Now,

From 1 to 10, 1 and 9 come at two places.

From 11 to 20, 1 and 9 come at two places of unit digit.

Similarly, for rest of the 60 numbers, 1 and 9 will come at (2 × 6 = 12) unit digits places.

So, total numbers will be = 12 + 2 + 2 = 16

∴ Required percentage = (16/80)×100

= 100/5 = 20%

8.The curved surface area of a cylinder is 96 cm^2 and its volume is 672 cm^3. Its diameter is:

A. 32 cm

B. 26 cm

C. 24 cm

D. 28 cm

Ans: D

Sol: Curved surface area of a cylinder = 96 cm^2

$\Rightarrow 2\pi rh = 96$

$\Rightarrow \pi rh = 48$ ……. (i)

Now, volume of cylinder = 672

$\Rightarrow \pi r^2 h = 672$

$\Rightarrow r(\pi rh) = 672$

$\Rightarrow r(48) = 672$

$\Rightarrow r = 14$

$\therefore$ Diameter = 2r = 2(14)

= 28 cm

9.If 3 of $5 \div 2 + \frac{3x}{1 + \frac{12}{2 + \frac{2x}{1-x}}} = 12\frac{1}{2}$, what is the value of x?

A. $\frac{35}{33}$

B. $\frac{25}{13}$

C. $\frac{34}{33}$

D. $\frac{15}{11}$

Ans: A

Sol: 3 of $5 \div 2 + \frac{3x}{1 + \frac{12}{2 + \frac{2x}{1-x}}} = 12\frac{1}{2}$

$$\Rightarrow 15 \div 2 + \frac{3x}{1 + \frac{12}{\frac{2 - 2x + 2x}{1 - x}}} = 12\frac{1}{2}$$

$$\Rightarrow 15 \div 2 + \frac{3x}{1 + \frac{12(1 - x)}{2}} = 12\frac{1}{2}$$

$$\Rightarrow 15 \div 2 + \frac{3x}{1 + 6(1 - x)} = 12\frac{1}{2}$$

$$\Rightarrow \frac{15}{2} + \frac{3x}{7 - 6x} = \frac{25}{2}$$

$$\Rightarrow \frac{105 - 90x + 6x}{2(7 - 6x)} = \frac{25}{2}$$

$$\Rightarrow \frac{105 - 90x + 6x}{(7 - 6x)} = 25$$

$\Rightarrow 105 - 84x = 175 - 150x$

$\Rightarrow 66x = 70$

$\Rightarrow x = \frac{35}{33}$

10.Find CI on Rs 8,000 at 15% for 2 years 4 months compounded annually.

A. Rs. 12,008

B. Rs. 1,264

C. Rs. 11,109

D. Rs. 3,109

Ans: D

Sol: For 2 years, r = 15%

For last 4 months, r = 15/3 = 5%

A = 8000 × 115/100 × 115/100 × 105/100

= Rs 11109

∴ CI = 11109 – 8000 = Rs 3109

11.The list price of a fan is Rs 4,500 and it is sold at 15% discount. If its final selling price, after allowing a second discount percentage on the list price, is Rs 3,213, then the second discount percentage is:

A. 15%

B. 16%

C. 12%

D. 18%

Ans: B

Sol: Let the second discount percentage be x%.

∴ 4500 × (100-15)/100 × (100-x)/100 = 3213

⇒ 4500 × 85/100 × (100-x)/100 = 3213

⇒ (100-x) = 321300/(45×85)

⇒ 100-x = 84

⇒ x = 16%

12.A certain number of men complete a piece of work in 60 days. If there were 9 more men, then the work would be completed in 50 days. How many men are originally there?

A. 45

B. 55

C. 48

D. 42

Ans: A

Sol: Let the original number of men be x.

According to question:

X × 60 = (x + 9) × 50

⇒ 60x = 50x + 450

⇒ 10x = 450

⇒ x = 45

Hence, the original number of men are 45.

13.When 154 *l* of oil is removed from an upright cylindrical tank, the level falls down by 10 cm. What is the diameter (in cm) of the tank? $\left(\text{Take } \pi = \frac{22}{7}\right)$

A. 220

B. 140

C. 100

D. 70

Ans: B

Sol: Required height = 10 cm

And 154 l = 154000 ml

Now, volume of tank by 10 cm = 154000

$\Rightarrow \pi r^2 h = 154000$

$\Rightarrow 22/7 \times r^2 \times 10 = 154000$

$\Rightarrow r^2 = 4900$

$\Rightarrow r = 70$

$\therefore$ Diameter = 2(70) = 140

14.In an election, a candidate got 75% of the total valid votes. If 20% of the total votes were declared invalid, and the total numbers of votes is 560000, find the number of valid votes polled in favour of the candidate.

A. 363000

B. 330000

C. 336000

D. 346000

Ans: C

Sol: Total votes = 560000

Invalid votes = 20%

$\therefore$ Valid votes = 80/100 × 560000

= 448000

$\therefore$ Valid votes polled in favour of the candidate = 75/100 × 448000

= 336000

15.Vessels A and B contain solutions of acid and water. The ratio of acid and water in vessel A is 7: 5 and that in vessel B is 11: 13. Four litres of solution from vessel A is mixed with 5 litres of solution from vessel B. What is the ratio of acid and water in the mixture?

A. 35:37

B. 22:21

C. 37:35

D. 21:22

Ans: C

Sol: According to the question:

Amount of acid taken from vessel A = (7/12)×4 = 7/3

Amount of water taken from vessel A = (5/12)×4 = 5/3

Amount of acid taken from vessel B = (11/24)×5 = 55/24

Amount of water taken from vessel B = (13/24)×5 = 65/24

Total acid in mixture = 7/3 + 55/24 = 111/24

Total water in mixture = 5/3 + 65/24 = 105/24

Required ratio = 111/24 : 105/24

= 111 : 105

= 37 : 35

16.The time taken by a boat to go 34 km upstream is 25% more than the time it takes to go 40 km downstream. If the speed of the stream is 4 km/h, then what is the speed (in km/h) of the boat in still water?

A. 21

B. 24

C. 20

D. 22

Ans: A

Sol: Let the speed of boat in still water be x km/hr.

According to question:

$34/(x-4) = (125/100) \times [40/(x+4)]$

$\Rightarrow 34/(x-4) = 50/(x+4)$

$\Rightarrow 17/(x-4) = 25/(x+4)$

$\Rightarrow 17(x+4) = 25(x-4)$

$\Rightarrow 17x+68 = 25x-100$

$\Rightarrow 8x = 168$

$\Rightarrow x = 21$

Hence, the speed of boat in still water is 21 km/hr.

17.8 pens and 14 pencils cost as much as 12 pens and 5 pencils. The ratio of the cost of one pen to the cost of one pencil is:

A. 9:5

B. 9:4

C. 7:5

D. 8:5

Ans: B

Sol: According to the question:

8 pens + 14 pencils = 12 pens + 5 pencils

⇒ 4 pens = 9 pencils

⇒ pens/pencils = 9/4

∴ Required ratio = 9 : 4

18.A sum of money becomes Rs 12,600 after 6 years and Rs 21,000 after 9 years on compound interest. The sum invested is:

A. Rs. 4500

B. Rs. 4600

C. Rs. 4536

D. Rs. 4436

Ans: C

Sol: According to the question:

$P[1 + r/100]^6 = 12600$ ..... (i)

$P[1 + r/100]^9 = 12600$ ..... (ii)

By dividing equation (ii) from (i) we get

$[1 + r/100]^3 = 5/3$

By putting the value in equation (i),

$P[(1 + r/100)^3]^2 = 12600$

⇒ $P[(5/3)]^2 = 12600$

⇒ $P[25/9] = 12600$

⇒ $P = 4536$

19.The income of X is 20% less than the income of Y, and the income of Z is 35% less than the combined incomes of X and Y. By what percentage is the income of Z more than that of X?

A. 46.25%

B. 38.8%

C. 31.6%

D. 45.5%

Ans: A

Sol: Let the income of Y is 100.

∴ Income of x = 80/100 × 100 = 80

Income of z = (65/100) × (100+80) = 117

Difference of income of Z and X = 117 – 80 = 37

Required percentage = (37/80) × 100 = 46.25%

20.A shopkeeper offers successive discounts of I0% and k%. Customers get items marked at Rs 1,200 for Rs 864 . What is the value of k?

A. 15

B. 20

C. 80

D. 25

Ans: B

Sol: According to the question:

∴ 1200 × (100-10)/100 × (100-k)/100 = 864

⇒ 1200 × 90/100 × (100-k)/100 = 864

⇒ 12 × 9 × (100-k) = 8640

⇒ (100-k) = 8640/108

⇒ (100-k) = 80

⇒ k = 20%

21.An article was sold at x% profit for Rs 875 . When the same article was sold for Rs 896, the profit made was 3% more than the previous profit. The value of x is:

A. 30

B. 24

C. 25

D. 20

Ans: C

Sol: According to the question:

3% = 896 – 875

⇒ 3% = 21

⇒ 1% = 7

⇒ 100% = 700 = cost price

∴ Profit = 875 – 700 = 175

Profit% = (175/700) × 100

= 25%

Hence, the value of x is 25.

22.Two numbers are, respectively, 20% and 50% more than a third number. The ratio of the first 2 numbers is:

A. 2 : 3

B. 1 : 11

C. 4 : 5

D. 5 : 6

Ans: C

Sol: Let the third number be 100.

∴ First number = (120/100) × 100 = 120

And second number = (150/100) × 100 = 150

∴ Ratio of first two numbers = 120 : 150

= 4 : 5

23.Simplify $\frac{2\frac{3}{4}}{1\frac{5}{6}} \div \frac{7}{8} \times \left(\frac{1}{3}+\frac{1}{4}\right)+\frac{5}{7} \div \frac{3}{4} \text{ of } \frac{3}{7}-\frac{5}{4} \text{ of } \frac{3}{5}$.

A. $5\frac{1}{36}$

B. $4\frac{11}{36}$

C. $2\frac{17}{36}$

D. $3\frac{5}{36}$

Ans: C

Sol:

$$\frac{2\frac{3}{4}}{1\frac{5}{6}} \div \frac{7}{8} \times \left(\frac{1}{3}+\frac{1}{4}\right)+\frac{5}{7} \div \frac{3}{4} \text{ of } \frac{3}{7}-\frac{5}{4} \text{ of } \frac{3}{5}$$

$$= \frac{\frac{11}{4}}{\frac{11}{6}} \div \frac{7}{8} \times \left(\frac{1}{3}+\frac{1}{4}\right)+\frac{5}{7} \div \frac{9}{28}-\frac{3}{4}$$

$$= \frac{3}{2} \div \frac{7}{8} \times \frac{7}{12}+\frac{5}{7} \div \frac{9}{28}-\frac{3}{4}$$

$= \frac{12}{7} \times \frac{7}{12} + \frac{20}{9} - \frac{3}{4}$

$= 1 + \frac{20}{9} - \frac{3}{4}$

$= \frac{89}{36}$

$= 2\frac{17}{36}$

24.A lent Rs 10,000 to B for 3 years on compound interest at 10% per annum compounded annually. C lent the same amount for the same period to D at 11% simple interest. Who gained more at the end of 3 year and how much?

A. A gained Rs.376 more

B. C gained Rs.10 more

C. A gained Rs.10 more

D. C gained Rs.300 more

Ans: C

Sol: A lent Rs 10,000 to B for 3 years on compound interest at 10% per annum compounded annually.

∴ CI = A − P

= P[1 + r/100]^n − P

= P[(1 + r/100)^n − 1]

= 10000[(1 + 10/100)^3 − 1]

= 10000[(11/10)^3 − 1]

= 10000[(1331/1000) − 1]

= 10000[331/1000]

= 3310

C lent the Rs 10000 for 3 years to D at 11% simple interest.

SI = [P × R × n]/100

= [10000 × 11 × 3]/100

= 3300

Difference = 3310 − 3300 = Rs 10

∴ A gained Rs.10 more

25.A certain sum amounts to Rs.14,160 in 3 years at 6 % per annum, at simple interest. What will be simple interest on the same sum in $4\frac{2}{3}$ year at the same rate of interest?

A. Rs.3,920

B. Rs.3,120

C. Rs.3,360

D. Rs.2,800

Ans: C

Sol: Let the sum be Rs P.

SI + P = 14160

⇒ [P × R × n]/100 + P = 14160

⇒ [P × 6 × 3]/100 + P = 14160

⇒ [18P]/100 + P = 14160

⇒ 118P/100 = 14160

⇒ P = 1416000/118

⇒ P = 12000

Now, simple interest on the same sum in $4\frac{2}{3}$ year at the same rate of interest

= [12000 × 6 × 14/3]/100

= 120 × 28

= Rs 3360

26.A shopkeeper marked an item at Rs 4,000. He earns a profit of 20% after selling it with a 10% discount on the marked price. If he sells it at a price Rs.100 less than the marked price, then what is his profit percentage?

A. 30

B. 25

C. 28

D. 20

Ans: A

Sol: Marked price = Rs 4000

Discount = 10%

∴ Selling price = (90/100) × 4000

= Rs 3600

Profit = 20%

∴ (120/100) × cost price = 3600

⇒ (6/5) × cost price = 3600

⇒ Cost price = (3600 × 5)/6

= Rs 3000

New selling price = 4000 – 100 = Rs 3900

Profit = 3900 – 3000 = Rs 900

∴ Profit % = (900/3000) × 100

= 30%

27.Gita bought 80 oranges at the rate of Rs 9.50 per orange. She sold 25% of these at Rs 12 each and one-third of the remaining at Rs 10 each. At what price per orange should she sell the remaining oranges to get an overall profit of Rs.25%?

A. Rs.12.75

B. Rs.11.50

C. Rs.12

D. Rs.13

Ans: A

Sol: CP of 1 orange = Rs 9.50

∴ CP of 80 oranges = 80 × 9.50 = Rs 760

Profit = 25%

∴ SP of 80 oranges = (125/100) × 760

= Rs 950

SP of 25% oranges = 20 × 12 = Rs 240

SP of one-third of the remaining oranges = 20 × 10 = Rs 200

Remaining oranges = 80 – 20 – 20 = 40

Remaining SP = 950 – 240 – 200 = Rs 510

Required SP = 510/40 = Rs 12.75

28.The value of 3 × 2 ÷ 3 of 2 × 3 ÷ (5 + 5 × 5 ÷ 5 of 5 – 5 ÷ 10 of 1/5) + 2 ÷ 7 of 2 is:

A. –1

B. 0

C. 2

D. 1

Ans: D

Sol: 3 × 2 ÷ 3 of 2 × 3 ÷ (5 + 5 × 5 ÷ 5 of 5 – 5 ÷ 10 of 1/5) + 2 ÷ 7 of 2

= 3 × 2 ÷ 6 × 3 ÷ (5 + 5 × 5 ÷ 25 – 5 ÷ 2) + 2 ÷ 14

= 3 × 1/3 × 3 ÷ (5 + 5 × 1/5 – 5 ÷ 2) + 1/7

= 3 ÷ 7/2 + 1/7

= 6/7 + 1/7

= 1

29.A certain sum of money is divided into three parts in the proportion of 11 : 8 : 5. If third part is Rs.530, what is the sum (in Rs.) of the other two parts?

A. 2,014

B. 1,378

C. 1,696

D. 2,544

Ans: A

Sol: According to question:

5 → 530

∴ Sum of other two parts = (530/5) × (11+8)

= 2014

30.If 4 men and 5 women can finish a work in 30 days and 6 men and 7 women can finish the same work in 24 days. How many days will it take for one woman alone to finish the two-third of the same work?

A. 60

B. 72

C. 70

D. 40

Ans: D

Sol: 4 men and 5 women can finish a work in 30 days and 6 men and 7 women can finish the same work in 24 days.

∴ (4M + 5W)30 = (6M + 7W)24

⇒ (4M + 5W)5 = (6M + 7W)4

⇒ 20M + 25W = 24M + 28W

⇒ -4M = 3W

⇒ M/W = -3/4

∴ Total work = (4(-3) + 5(4))30

= (-12 + 20)30 = 240 units

Now, 2/3rd of the work = 240(2/3) = 160 units

∴ One woman complete the 2/3rd of the work in = 160/4

= 40 days

31.The speed of a train was increasing by 3 km/h after every one hour for up to 10 hours and then, it was increasing by 5 km/h. If the distance travelled in the first one hour was 40 km. what was the total distance covered by the train in 20 hours?

A. 535 km

B. 895 km

C. 1,480 km

D. 800 km

Ans: C

Sol: Distance travelled in first hour = 40

Distance travelled in second hour = 43

So, distance travelled in 10 hours

$S_n = (n/2)[2a + (n-1)d]$

$= (10/2)[2(40) + (10-1)3]$

$= 5[80 + 27]$

$= 535$

Now distance travelled in 10^{th} hour = 40 + 9(3)

= 67 km

∴ Distance travelled in 11^{th} hour = 67+5 = 72 km

∴ Sum of distance travelled in next 10 hours

$= (10/2)[2(72) + (10-1)5]$

$= 5[144 + 45]$

$= 5[189]$

= 945 km

∴ Total distance travelled in 20 hours = 535 + 945

= 1480 hours

32.In a college 80% of students are less than 20 years of age, The number of students more than 20 years of age is $\frac{2}{3}$ of the number of students 20 years of age which is 48. What is the total number of students in the college?

A. 200

B. 400

C. 450

D. 300

Ans: B

Sol: Number of students 20 years of age = 48

∴ Number of students more than 20 years of age = (2/3) × 48 = 32

Number of students less than 20 years of age = 80%

∴ Remaining students = 20% = 48 + 32 = 80

∴ Total students = (80/20) × 100 = 400

33.A and B can complete a piece of work in 12 days and 20 days respectively. They work together for 6 days. The remaining work is completed by C in 12 days. In how many days will B and C together complete $\frac{2}{3}$ of the same work?

A. 15 days

B. 12 days

C. 10 days

D. 8 days

Ans: C

Sol: A and B can complete a piece of work in 12 days and 20 days respectively.

Total work = LCM of 12 and 20 = 60 units

Efficiency of A = 60/12 = 5

Efficiency of B = 60/20 = 3

∴ Work completed in 6 days = (5+3)6 = 48 units

Remaining work = 60 – 48 = 12 units

Remaining work done by B in 12 days.

∴ Efficiency of C = 12/12 = 1

Now, 2/3rd of the work = 60(2/3) = 40 units

B and C complete the 2/3rd of the work in = 40/(3+1)

= 10 days

34.If 15% of a number exceeds 9% of the same number by 33, What is that number?

A. 500

B. 590

C. 570

D. 550

Ans: D

Sol: According to the question:

15% - 9% = 33

6% = 33

∴ Number = (33/6) × 100 = 550

35.Find the largest number which can exactly divide 228, 282 and 288.

A. 4

B. 3

C. 8

D. 6

Ans: D

Sol: 282-228 = 54

And 288 – 282 = 6

Required number = HCF of 54 and 6

= 6

36.The average of six consecutive even numbers, taken in increasing order, 107, What is the average of the last three number?

A. 116

B. 108

C. 112

D. 110

Ans: D

Sol: Let the six consecutive even numbers be x, x+2, x+4, x+6, x+8 and x+10.

According to question:

[x + x+2 + x+4 + x+6 + x+8 + x+10]/6 = 107

⇒ x + x+2 + x+4 + x+6 + x+8 + x+10 = 642

⇒ 6x +30 = 642

⇒ 6x = 612

⇒ x = 102

Now, x + 6 = 102 + 6 = 108

X + 8 = 102 + 8 = 110

X + 10 = 102 + 10 = 112

Sum of last three numbers = 108+110+112 = 330

∴ Average of last three numbers = 330/3 = 110

37.A machine X can produce 1000 bolts in 4 hours and another machine Y can produce 1000 bolts in 12 hours. In how many hours can machines X and Y, working together at their respective constant rates, produce 1000 bolts?

A. 3 B. 2

C. 6 D. 4

Ans: A

Sol:

In 4 hours X can produce 1000 bolts

In 1 hour X can produce 1000/4 = 250 bolts

In 12 hours Y can produce 1000 bolts

In 1 hour Y can produce 1000/12 = 250/3 bolts

In 1 hour X and Y both produce = $250+\frac{250}{3}=\frac{1000}{3}$ bolts

Time taken by X and Y to produce 1000 bolts = $\frac{1000}{\frac{1000}{3}}=3$

38.In a company, there are 75% skilled workers and the remaining are unskilled. 84% of the skilled workers and 28% of the unskilled workers are permanent. If the number of temporary workers is 150, then the total number of workers in the company is:

A. 600 B. 500

C. 480 D. 400

Ans: B

Sol:

Let the total number of workers in company be 100x

Number of skilled workers = 75% of 100x = 75x

Number of unskilled workers = 100 – 75x = 25x

Number of permanent skilled workers = $75x\times\frac{84}{100}=63x$

Number of permanent unskilled workers = $25x\times\frac{28}{100}=7x$

Number of temporary workers = 100x – (63x + 7x) = 100x – 70x = 30x

According to the question,

30x = 150

x = 150/30 = 5

Total number of workers in company = 100x = 100 × 5 = 500

39.Arun invested ₹7,000 at simple interest for two years at 10% per annum. Bharath invested a certain sum at simple interest for 5 years at 8% per annum. If the amount received by Arun is equal to the amount received by Bharath, then the sum invested by Bharath is:

A. ₹ 5,800 B. ₹ 6,000 C. ₹ 6,200 D. ₹ 6,500

Ans: B

Sol:

Arun

Principal = ₹7,000

Rate = 10%

Time = 2 years

Simple interest = $\frac{\text{Principal} \times \text{Time} \times \text{Rate}}{100}$

= $\frac{7000 \times 2 \times 10}{100}$ = ₹ 1400

Amount = Principal + SI = 7000 + 1400 = ₹ 8400

Let the amount invested by Bharath be ₹ x

Rate = 8% P.a.

Time = 5 years

Simple interest = $\frac{\text{Principal} \times \text{Time} \times \text{Rate}}{100}$

= $\frac{x \times 8 \times 5}{100}$ = ₹ 0.4x

Amount = Principal + SI = x + 0.4x = ₹ 1.4x

According to the question,

1.4x = 8400

$\therefore x = \frac{8400}{1.4}$ = ₹ 6000

40.The present average age of A, B and C is 60 years and that of B and C is 50 years. What is A's present age?

A. 80 years B. 60 years C. 75 years D. 45 years

Ans: A

Sol:

Present average age of A, B and C = 60 years

Sum of age of A, B and C = 3 × 60 = 180 years

Present average age of B and C = 50 years

Sum of age of B and C = 2 × 50 = 100 years

Present age of A = 180 – 100 = 80 years

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