Statement Test 7

1. A shopkeeper marked the selling price of (a+8) chairs and (a-8) tables at Rs 520. If the price of each chair is Rs15 and the price of each table is Rs 25. Find the selling price of "a" chairs ? a.210 b.225 c.240 d.260 e.275

2. Income of John is 30% less than the income of Shawn . John saves 30% of his income while Shawn saves Rs 2100. If the savings of both John and Shawn are same, then find the sum between the expenditure of John and Shawn ?
a.9800 b.13800 c.12800 d.11400 e.10800

3. In an election there were two candiates-Sushma and Sonia. The total number of votes in their constituency was 30,000, and 70% of the total votes were polled. If 40% of the voters cast their votes in favour of Sonia, how many votes were received by Sushma?
A. 14500 B. 13700 C. 12600 D. 10500 E. 11900

4. Two pipes Z and Y can fill a cistern in 42 minutes and 48 minutes respectively. There is also an outlet pipe P. If all the three pipes are opened together, the tank gets filled completely in 30 minutes. How much time will pipe P take to empty the full tank?
A. 75 **4/21** min B. 78 **5/27** min C. 80 **6/23** min D. 84 **7/29** min E. 88 **8/19** min

5. Narsimha finishes a work in 15 days by working 10 hours a day. Rajshekhar finishes it in 8 days by working 11 hours a day. Find in how many days both can finish it working together for 12 hours a day.
A. 3 **35/71** days B. 4 **71/149** days C. 3 **12/35** days D. 4 **74/119** days E. 4 **77/113** days

6. A motorboat can go 120 km upstream and return the same distance in 25 hours. If the speed of the stream is 2 km per hour then find the speed of the motorboat in upstream?
A) 4 km/hr B) 6 km/hr C) 8 km/hr D) 8 km/hr E) None

7. Ratio of speed of boat in still water to speed of stream 8 : 1. 67.5 km is travelled downstream in 2.5 hours. Difference between speed of boat in still water and speed of stream? A) 21 km/hr B) 18 km/hr C) 12 km/hr D) 10 km/hr E) 24 km/hr

8. If the ratio of speed of boat in downstream and speed of stream is 9 : 1, speed of current is 3 km per hr, What would be the distance travelled in upstream by the boat in 5 hours? A) 100 km B) 125 km C) 115 km D) 110 km E) 105 km

9. In a business A and C invested amounts in the ratio 2 : 1 whereas A and B invested amounts in the ratio 3 : 2. If their annual profit be Rs. 157300, then B's share in the profit is. A. Rs. 24200 B. Rs. 24200 C. Rs. 48000 D. Rs. 48400 E. None of these

10. P, Q and R invested Rs. 45k, Rs. 70k and 90k respectively to start a business. At the end of two years, they earned a profit of Rs. 164k. What will be the Q's share in the profit? A. Rs. 56k B. Rs. 35k C. Rs. 72k D. Rs. 72k E. None of these

11. A, B and C are partners of a company. During a particular year A received one-third of the profit, B received one-fourth of the profit and C received the remaining Rs. 5,000. How much did A receive ?
A. Rs. 5,000 B. Rs. 4,000 C. Rs. 3,000 D. Rs. 1,000 E. None of these

12. If a sum of money is to be divided among A, B, C such that A's share is equal to twice B's share and B's share is 4 times C's share then their shares are in the ratio
A. 1 : 2 : 4 B. 1 : 4 : 1 C. 8 : 4 : 1 D. 2 : 4 : 1 E. None of these

13. Abhishek started a business investing Rs. 50,000. After one year he invested another Rs. 30,000 and Sudin also joined him with a capital of Rs. 70,000. If the profit earned in three years from the starting of business was Rs. 87,500, then find the share of Sudin in the profit.
A. Rs. 37,500 B. Rs. 32,500 C. Rs. 38,281 D. Rs. 52,500 E. None of these

14. A and B are partners in a business. They invest in the ratio of 5 : 6; at the end of 8 months A withdraws. If they receive profits in the ratio of 5 : 9, then find how long B's investment was used.
A. 12 months B. 10 months C. 15 months D. 14 months E. 18 months

15. Ayush and Anshu decided to start a business and they invested Rs. 5500 and 6250 respectively. After 10 months the difference between their profits is Rs 540. Find the total profit.
A. Rs. 8500 B. Rs. 8450 C. Rs. 8960 D. Rs. 8740 E. None of these

16. Average weight of boys and girls is 24 kg and 27 kg and average weight of class is 25(5/7) kg. If weight of teacher which is 72 kg is also added, then average weight of class becomes 27 kg. Find the number of boys in class.
(A) 15 (B) 18 (C) 24 (D) 20 (E) None of these

17. Two trains A and B crosses each other in 15.5 seconds while running in opposite direction. If train A and B takes 18 seconds and 14 seconds to cross a man respectively, then find the ratio of speeds of A and B.
(A) 6 : 7 (B) 4 : 5 (C) 5 : 6 (D) 3 : 5 (E) None of these

18. A person invests a part of Rs. 10000 in two schemes offering compound interest at 12.5% and 16.67% for 2 years. If the total interest earned after two years is 30% of total investment, then find the difference between amounts invested initially.
(A) 2000 Rs. (B) 2800 Rs. (C) 3000 Rs. (D) 2500 Rs. (E) None of these

19. Three containers A, B and C contains water and milk in the ratio 4 : 5, 5 : 6 and 6 : 7 respectively. If A, B and C is mixed in the ratio 3 : 2 : 5, then find the ratio of water and milk in final mixture.
(A) 976 : 1169 (B) 974 : 1171 (C) 963 : 1167 (D) 994 : 1173 (E) None of these

20. A cone is melted to form a sphere whose radius is 43.75% less than height of cone. Find radius of cone is what percentage more/less than radius of sphere?
(A) 25% less (B) 50% more (C) 12.5% less (D) 10% more (E) None of these

21. Tarun invested some amount at simple interest for 4 years at 15% and then reinvested total amount at compound interest at 25% for 2 years. If the overall interest earned is 2250 Rs., then find the initial amount invested by Tarun.
(A) 1000 Rs. (B) 1500 Rs. (C) 1250 Rs. (D) 1750 Rs. (E) None of these

22. Total time taken by boat X and Y to cover 120 km upstream is 16 hours and total time taken by X and Y to cover 280 km downstream is 24 hours. If speed of stream is 4 km/h, then find the ratio of speeds of X and Y.
(A) 1 : 2 (B) 4 : 5 (C) 2 : 3 (D) 3 : 4 (E) None of these

23. A 205 liter mixture containing milk and water in which water is 73.33% more than milk. 41 liters of the mixture is taken out and A liter of milk and (5A/3) liters of water is added to the remaining mixture. Now the ratio of milk and water is 45 : 77 respectively. Find the value of A.
(A) 45 (B) 55 (C) 40 (D) 30 (E) None of these

24. A amount has to be distributed among man, woman and children in the ratio 7 : 8 : 9 respectively but it was mistaken to be 1/7 : 1/8 : 1/9. If total amount is Rs. 4584, then how much more did A man get than what he deserved?
(A) Rs. 385 (B) Rs. 452 (C) Rs. 391 (D) Rs. 451 (E) None of these

25. A train travels 53(1/3)% of the distance with speed of 32 km/h, 37.5% of the distance with speed of 25 km/h and rest with speed of 50 km/h. Find the average speed of the journey.
(A) 29.8 km/h (B) 25.4 km/h (C) 27.7 km/h (D) 32/5 km/h (E) None of these

26. A fraction become 1/2 when 5 is subtracted from it. What will be the fraction obtained when 8 is added to Numerator and 15 is added to the denominator?
(A) 19/17 (B) 16/17 (C) 18/17 (D) 11/17 (E) None of these

27. In a city male population is 83.33% of the total population and rest are females. If 28% of the male population and 35% of the female population is graduate, then what percent of the population is not graduate?
(A) 68.83% (B) 74.33% (C) 74.5% (D) 70.83% (E) None of these

1. B
520=(a+8)*15+(a-8)*25
520=15a+120+25a-200
520+80=40a
a=15
selling price of 15 chair=15*15
=225

2. (c)
Income of John=70x
Income of Shawn=100x
Saving of John=21x
Expenditure of john=49x
21x=2100
X=100
Sum=49x+(100*100)-2100
=4900+10000-2100

= 12800

3.C

Total votes polled = 30000 x $\mathbf{70/100}$ = 21000
Votes in favour of Sonia = 21000 x $\mathbf{40/100}$ = 800
Votes in favour of Sushma = 21000 - 8400
12600 ans.

4.E

Let the time taken by outlet pipe 'P' to empty the full tank = x min.
Part of tank filled in 1 min.
$(\mathbf{1/42+1/48-1/}\boldsymbol{x})$ = $\mathbf{90/}\boldsymbol{x} - \mathbf{2016/2016}\boldsymbol{x}$
According to question, 30($\mathbf{90/}\boldsymbol{x} - \mathbf{2016/2016}\boldsymbol{x}$) = 1
2700x - 60480 = 2016x
684x = 60480
x = 88 $\mathbf{8/19}$ min. ans.

5.D
Work done by Narasinha per day per hr = $\mathbf{1/15}\ \boldsymbol{x}\ \mathbf{10} = \mathbf{1/150}$
Work done by Rajshekhar per day per hr = $\mathbf{1/8}\ \boldsymbol{x}\ \mathbf{11} = \mathbf{1/88}$
Work done by both = $\mathbf{1/150} + \mathbf{1/88}$
Work done by both per day for 12 hrs = 12 $\mathbf{1/150} + \mathbf{1/88} = \mathbf{238/1100}$
Total work done by both working in 12 hrs per day is $\mathbf{1100/238}$ = 4 $\mathbf{74/119}$ days

6

Q5. Ans(D)
Explanation:

Let the speed of the motorboat in still water = x km per hour

Then the speed of the motorboat in upstream = x − 2 km per hour

And the speed of the motorboat in downstream = x + 2 km per hour

According to the question,

$$\frac{120}{x-2} + \frac{120}{x+2} = 25$$

$$\frac{2x}{x^2-4} = \frac{25}{120} = \frac{5}{24}$$

$$48x = 5x^2 - 20$$

$$5x^2 - 48x - 20 = 0$$

By solving, x = 10 or -0.4

Negative value is not possible therefore, x = 10 km per hour

The speed of the motorboat in upstream = 10 − 2 = 8 km per hour

7

Q6. Ans(A)
Explanation:

Downstream speed of boat

$$= \frac{67.5}{2.5} \text{ km/hr} = 27 \text{ km/hr}$$

Ratio of speed of boat in still water to speed of stream = 8 : 1

So, 9 units = 27 km/hr

1 unit = 3 km/hr

∴ Difference between speed of boat in still water and speed of stream = (8 − 1) = 7 units

= 7 × 3 = 21 km/hr.

8

Q7. Ans(E)

Explanation:

Downstream speed of boat

$= \frac{67.5}{2.5}$ km/hr = 27 km/hr

Ratio of speed of boat in still water to speed of stream = 8 : 1

So, 9 units = 27 km/hr

1 unit = 3 km/hr

∴ Difference between speed of boat in still water and speed of stream = (8 – 1) = 7 units

= 7 × 3 = 21 km/hr.

Distance travelled by boat in upstream in 5 hours = 21 × 5 = 105 km

9

Annual profit = 157300

A : B = 3 : 2 ⇔ 6 : 4

A : C = 2 : 1 ⇔ 6 : 3

A : B : C = 6 : 4 : 3

B's share $= \frac{4}{13} \times 157300 = 4 \times 12100 = 48400/-$

Hence, option D is correct.

10

Ratio of amount invested by P, Q, R

= 45k : 70k : 90k

= 9 : 14 : 18

Total profit = ₹ 164K

Q's share $= \frac{14}{41} \times 164k = 14 \times 4k = ₹56k.$

Hence, option A is correct.

11

Profit earned by C = $1 - \left(\frac{1}{3} + \frac{1}{4}\right) = 1 - \frac{7}{12} = \frac{5}{12}$

So,

$\frac{5}{12} = 5{,}000$

∴ 1 → 12,000

∴ Profit received by A $= \frac{1}{3} \times 12{,}000$ = Rs. 4,000

Hence, option B is correct.

12

A		B		C
2	:	1		
		4	:	1
2 × 4	:	1 × 4	:	1 × 1
i.e. 8	:	4	:	1

Hence, option C is correct.

13

Ratio of Abhishek and Sudin for one month

= (50,000 × 12) + (80,000 × 24) : (70,000 × 24)

= (60,000 + 1920000) : 1680000 = 3 : 2

Hence share of sudin in the profit earned from the business

$= \frac{87{,}500}{(3+2)} \times 2$ = Rs. 35000

Hence, option E is correct.

14

Ratio of profit = 5 : 9

Now, $\frac{\text{Share of A's investment}}{\text{Share of B's investment}}$

$= \frac{\text{Profit of A}}{\text{Profit of B}}$

or, $\frac{5 \times 8}{6 \times \text{months}(x)} = \frac{5}{9}$

or, $x = \frac{5 \times 8 \times 9}{5 \times 6}$ = 12 months

Hence, option A is correct.

15

Ratio of the capital = 5500 : 6250 = 22 : 25

Difference between their profit = 540 Rs.

So, = 540 ÷ 3 × 47 = 8460 Rs.

Hence, option E is correct.

16. Ans. (A)

Total Students = x x × 180/7 + 72 = (x + 1) × 27 27x – 180x/7 = 72 – 27 9x/7 = 45 x = 35

Boys : Girls = (27 – 180/7) : (108/7 – 24) = 3 : 4 Number of Boys = 35 × 3/7 = 15

17. Ans. (D)

Length of Train A = a m, Length of Train B = b m Speed of Train A = a/18 m/s Speed of Train B = b/14 m/s (a/18 + b/14) × 15.5 = a + b a/18 + b/14 = a/15.5 + b/15.5 a/15.5 – a/18 = b/14 – b/15.5 5a/558 = 3b/434 a/b = 27/35 Speed of A : Speed of B = a/18 : b/14 = 27/18 : 35/14 = 1.5 : 2.5 = 3 : 5

18. Ans. (B)

Amount invested at 12.5% interest = x Rs.
Amount invested at 16.67% interest
= (10000 – x) Rs. x × (1.1252 – 1) + (10000 – x) × ((7/6)2 – 1)
= 10000 × 0.3 x × 17/64 + (10000 – x) × 13/36
= 3000 17x/64 – 13x/36 + 32500/9 = 3000 55x/576
= 5500/9 x = 6400 Rs. 10000 – x = 10000 – 6400
= 3600 Rs. Difference = 6400 – 3600 = 2800 Rs.

19. Ans. (A)

Water : Milk = (3 × 4/9 + 2 × 5/11 + 5 × 6/13) : (3 × 5/9 + 2 × 6/11 + 5 × 7/13) = (4/3 + 10/11 + 30/13) : (5/3 + 12/11 + 35/13) = 1952/429 : 2338/429 = 976 : 1169

20. Ans. (B)

Height of Cone = 16x, Radius of Sphere = 16x × 0.5625
= 9x Radius of Cone = r 1/3 × r2 × 16x
= 4/3 × (9x)3 r2 × 4
= 729x2 r × 2 = 27x r = 13.5x Radius of Cone
is more than Radius of Sphere by = (13.5x – 9x)/9x × 100 = 50% more

21. Ans. (B)

Initial Amount invested = x Rs. Amount after 4 years = x × (1 + 4 × 0.15) = x × (1 + 0.6) = 1.6x Rs. 1.6x × 1.252 – x = 2250 1.6x × 25/16 – x = 2250 2.5x – x = 2250 1.5x = 2250 x = 1500 Rs.

22. Ans. (C)

Speed of Boat X = x km/h
Speed of Boat Y = y km/h
120/(x – 4) + 120/(y – 4) = 16
30/(x – 4) + 30/(y – 4) = 4
280/(x + 4) + 280/(y + 4) = 24
35/(x + 4) + 35/(y + 4) = 3
x = 16 km/h, y = 24 km/h
x : y = 16 : 24 = 2 : 3

23. Ans. (D)

In 205 L mixture,
Milk = 205/(1 + 26/15)
= 205 × 15/41 = 75 L
Water = 75 × 26/15 = 130 L
Milk : Water = 75 : 130 = 15 : 26
(75 – 15 + A)/(130 – 26 + 5A/3) = 45/77
(60 + A) × 77 = (104 + 5A/3) × 45
4620 + 77A = 4680 + 75A
2A = 60
A = 30

24. Ans. (C)

Actual Ratio,
Man : Woman : Children = 7 : 8 : 9
Actual amount that man deserve
= 4584 × 7/24 = 1337 Rs.
Amount distributed in ratio,
Man : Woman : Children
= 1/7 : 1/8 : 1/9 = 72 : 63 : 56
Man get = 4584 × 72/191 = 1728 Rs.
Difference = 1728 – 1337 = 391 Rs.

25. Ans. (A)

Let Total Distance = 120 km
Average speed of journey
= 120/(64/32 + 45/25 + 11/50)
= 120/(2 + 1.8 + 0.22)
= 120/4.02 = 29.8 km/h

26. Ans. (A)

Fraction = 1/2 + 5 = 11/2
New fraction
= (11 + 8)/(2 + 15) = 19/17

27. Ans. (D)

% of % which is not graduate
= 250/3 × 0.72 + 50/3 × 0.65
= 60 + 65/6 = 70.83%