Quiz Date: 6th May 2020

Q1. X's age 3 years ago was three time the present age of Y. At present, Z's age is twice the age of Y. Also Z is 12 years younger than X. What is the present age of Z?
(a) 15 years
(b) 24 years
(c) 12 years
(d) 6 years
(e) 18 years

Q2. A batsman played three matches in a tournament. The respective ratio between the scores of 1st and 2nd matches was 5 : 4 and that between the scores of 2nd and 3rd matches was 2 : 1. The difference of runs scored in 1st and 3rd matches was 48. What was the batsman's average score in all the three matches?
(a) 45
(b) $58\frac{2}{3}$
(c) 70
(d) $40\frac{2}{3}$
(e) $50\frac{1}{4}$

Q3. A invests a certain sum in scheme A at compound interest (compounded annually) of 10% per annum for 2 years. In scheme B he invests at simple interest of 8% per annum for 2 years. He invests in schemes A and B in the ratio of 1 : 2.The difference between the interest earned from both the schemes is Rs 990. Find the amount invested in scheme A.
(a) Rs 7500
(b) Rs 8000
(c) Rs 9000
(d) Rs 8500
(e) Rs 8600

Q4. A bag contains 5 red balls, 6 yellow and 3 green balls. If two balls are picked at random, what is the probability that both are red or both are green in colour?
(a) 3/7
(b) 5/14
(c) 1/7
(d) 2/7
(e) 3/14

Q5. Rs. 800 becomes Rs. 956 in 3 years at a certain rate of simple interst. If the percentage value of rate of interest is increased by 4, what amount will Rs. 800 become in 3 years?
(a) Rs. 1020.80

(b) Rs. 1025
(c) Rs. 1052
(d) Rs. 1050
(e) Rs. 1250

Q6. A mixture of 45 litres of spirit and water contains 20% of water in it. How much water must be added to it to make the water 25% in the new mixture?
(a) 5 litres
(b) 3 litres
(c) 4 litres
(d) 6 litres
(e) 8 litres

Q7. 28 men can complete a piece of work in 15 days and 15 women can complete the same piece of work in 24 days. What is the respective ratio between the amount of work done by 30 men in 1 day and the amount of work done by 18 women in 1 day?
(a) 10 : 7
(b) 3 : 5
(c) 5 : 4
(d) 9 : 5
(e) 5 : 9

Q8. A car driver driving in fog, passes a pedestrian who was walking at the rate of 2 km/hr in the same direction. The pedestrian could see the car for 6 min and it was visible to him up to a distance of 0.6 km. The speed of the car would be
(a) 15 km/hr
(b) 800 m/hr
(c) 200 m/hr
(d) 8 km/hr
(e)18 km/hr

Q9. A and B start a business with Rs. 2500 and Rs. 3500 respectively. After 4 months C joins the business with Rs. 4500. At the end of the year, C gets Rs.900 as his share of profit then find the difference between profit got by B and A?
(a) Rs. 600
(b) Rs. 300

(c) Rs. 1200
(d) Rs. 1500
(e) Rs. 450

Q10. The letters of the word PROMISE are to be arranged so that three vowels should not come together. Find the number of arrangements.
(a) 4470
(b) 4320
(c) 3792
(d) 4200
(e) 4230

Q11. There are four girls and five boys in a school. What will be the probability of making a team of four students which contains at least two girls?
(a) 9/14
(b) 7/14
(c) 5/14
(d) 3/14
(e) 11/14

Q12. A and B together can complete a work in 3 days. They start together but after 2 days B left the work. If the work is completed after two more days. A alone could do the work in
(a) 5 days
(b) 9 days
(c) 6 days
(d) 10 days
(e) 12 days

Q13. Train A is 180 metres long, while another train B is 240 metre long. A has a speed of 30 kmph and B's speed is 40 kmph, if both trains move in opposite directions. When will A pass B completely?
(a) 21 seconds
(b) 26.1 seconds
(c) 26 seconds
(d) 21.6 seconds
(e) None of these

Q14. A manufacturer offers a 20% rebate on the marked price of a product. The retailer offers another 30% rebate on the reduced price. The two reductions are equal to a single reduction of:
(a) 56%
(b) 44%
(c) 46%
(d) 40%
(e) 36%

Q15. The number of boys and girls in a college are in the ratio of 3 : 2. If 20% of the boys and 25% of the girls are adults, the percentage of students, who are not adults, is:
(a) 58%
(b) 200/3%
(c) 78%
(d) 250/3%
(e) 81%

Solutions

S1. Ans.(e)
Sol.

Let present ages of all the three are X, Y and Z respectively.
X = 3Y + 3 ...(i)
Z = 2Y ...(ii)
X = Z + 12 ...(iii)
From equations (i), (ii) and (iii)
X – 3Y = 3 and X – 2Y = 12
After solving these two resultant equations, we get
Y = 9 years
∴ Z's present age = 18 years.

S2. Ans.(b)
Sol.

$1^{st} : 2^{nd} = 5 : 4$ and $2^{nd} : 3^{rd} = 2 : 1$
$\therefore 1^{st} : 2^{nd} : 3^{rd} = 5 : 4 : 2$
ATQ, $5x - 2x = 48$
$\Rightarrow x = 16$
∴ Required average
$= \frac{80 + 64 + 32}{3} = \frac{176}{3} = 58\frac{2}{3}$

S3. Ans.(c)
Sol.
Let in both schemes he invested
Rs. P and 2P respectively

$$\text{ATQ, } \left|P\left[\left(1+\frac{10}{100}\right)^2-1\right]-\frac{2P\times 8\times 2}{100}\right| = 990$$

$$\Rightarrow \left|\frac{21P}{100}-\frac{32P}{100}\right| = 990$$

$$\Rightarrow P = \frac{99000}{11}$$

$$\Rightarrow P = 9000$$

S4. Ans.(c)
Sol.

$$\text{Required probability} = \frac{{}^5C_2}{{}^{14}C_2}+\frac{{}^3C_2}{{}^{14}C_2}$$

$$= \frac{10}{91}+\frac{3}{91}$$

$$= \frac{13}{91}$$

$$= \frac{1}{7}$$

S5. Ans.(c)
Sol.

$$\text{Rate of interest} = \frac{(956-800)\times 100}{800\times 3}$$

$$= 6.5\%$$

$$\therefore \text{New amount} = 800+\frac{800\times 10.5\times 3}{100}$$

$$= 1052$$

S6. Ans.(b)
Sol.
Let x liter water is added

$$\therefore (45+x)\times\frac{25}{100} = \frac{20}{100}\times 45+x$$

$$\Rightarrow 45+x = 36+4x$$

$$\Rightarrow x = 3\ litre$$

S7. Ans.(a)
Sol.

$$\text{Required ratio} = \frac{30}{28\times 15} : \frac{18}{15\times 24}$$

$$= 10 : 7$$

S8. Ans.(d)
Sol.
Let speed of car = x km/h
ATQ, $(x-2)\times\frac{6}{60}=0.6$
$\Rightarrow x=8\ km/h$

S9. Ans.(b)
Sol.
Ratio of A's, B's and C's investments respectively
$=2500\times12:3500\times12:4500\times8$
$=5:7:6$
∴ Required difference
$=\frac{(7-5)}{18}\times\frac{18}{6}\times900$
$=300$

S10. Ans.(b)
Sol.
Total letters = 7
Vowels = 3 (O, I, E)
∴ Required no. of ways = 7! – 5! × 3!
= 4320

S11. Ans.(a)
Sol.
Favorable cases = $(2G,2B)\ or\ (3G,1B)$ or 4G
∴ Probability $=\frac{{}^4C_2\times{}^5C_2}{{}^9C_4}+\frac{{}^4C_3\times{}^5C_1}{{}^9C_4}+\frac{{}^4C_4}{{}^9C_4}$
$=\frac{6\times10}{9\times7\times2}+\frac{4\times5}{9\times7\times2}+\frac{1}{9\times7\times2}$

$=\frac{10}{21}+\frac{10}{63}+\frac{1}{126}=\frac{9}{14}$

S12. Ans.(c)
Sol.
2 days work of A and B together
$= \frac{2}{3}$
Remaining work $= \frac{1}{3}$
$\because \frac{1}{3}$ work A completes in 2 days
$\therefore$ Whole work will be completed by
A in = 6 days

S13. Ans.(d)
Sol.
$$\text{Required time} = \frac{(180+240)}{(30+40)\times\frac{5}{18}}$$
$= 21.6$ sec

S14. Ans.(b)
Sol.
$20 + 30 + \frac{20\times30}{100} = 50 + 6 = 56\%$
So, equally discount = 100 – 56 = 44%

S15. Ans.(c)
Sol.
Let the number of total boys and girls is 100
Boys : Girls = 3 : 2
$\Rightarrow$ Sum of ratio terms = 3 + 2 = 5
Number of boys $= 100 \times \frac{3}{5} = 60$
And number of girls $= 100 \times \frac{2}{5} = 40$
The number of adults
$= \frac{60\times20}{100} + \frac{40\times25}{100} = 12 + 10 = 22$
The number of non-adults = 100 – 22 = 78
$\therefore$ Percentage of students, who are not adults = 78%