Quiz Date: 22nd July 2020

Q1. When the price of sugar was increased by 32%, a family reduced its consumption in such a way that the expenditure on sugar was only 10% more than before. If 30 kg per month were consumed before, find the new monthly consumption.
(a) 42 kg
(b) 35 kg
(c) 25 kg
(d) 16 kg
(e) 18 kg

Q2. A part of monthly expenses of a family is constant and the remaining varies with the price of wheat. When the rate of wheat is Rs. 250 a quintal, the total monthly expenses of the family are Rs. 1000 and when it is Rs. 240 a quintal, the total monthly expenses are Rs. 980. Find the total monthly expenses of the family when the cost of wheat is Rs. 350 a quintal.
(a) Rs. 1000
(b) Rs. 1400
(c) Rs. 1200
(d) Rs. 800
(e) Rs. 1600

Q3. The area of a rectangle gets reduced by 9 m^2 if its length is reduced by 5 m and breath is increased by 3 m. If we increased the length by 3 m and breath by 2 m, the area is increased by 67 m^2. The length of the rectangle is:
(a) 9 m
(b) 15.6 m
(c) 17 m
(d) 18.5 m
(e) 19 m

Q4. The work done by 4 men in 12 days is equal to the work done by 6 women in 10 days and is also equal to the work done by 8 children in 9 days. A man, a woman and a child working together take 10 days to complete a particular job. In how many days will the same job be completed by 2 women and 5 children working together?
(a) 5
(b) 6
(c) 4
(d) 7
(e) 8

Q5. Shekhar works as a central contractor for CPWD and supplies bitumen mix for road construction. He has two varieties of bitumen, one at Rs. 42 per kg and the other at Rs. 25 per kg respectively. How many kg of first variety must Shekhar mix with 25 kg of second variety, so that he may, on selling the mixture at Rs. 40 per kg, gain 25% on the outlay?
(a) 30
(b) 20

(c) 25
(d) 15
(e) 17.5

Directions (6-10): Find the value of missing number (?) in the given number series.

Q6. 23 , 25, 79, 401, 2815, ?
(a) 25345
(b) 25340
(c) 25350
(d) 25445
(e) 25355

Q7. 14/3, 8, 14, 24, 40, ?
(a) 45
(b) 85
(c) 70
(d) 65
(e) 60

Q8. ?, 32, 51, 74, 103, 134
(a) 7
(b) 15
(c) 13
(d) 17
(e) 19

Q9. ?, 164, 178, 157, 185, 150
(a) 158
(b) 169
(c) 171
(d) 173
(e) 167

Q10. ?, 124, 215, 342, 511, 728
(a) 64
(b) 63

(c) 61
(d) 60
(e) 45

Q11. In a 90 litres mixture of milk and water, percentage of water is only 30%. The milkman gave 18 litres of this mixture to a customer and then added 18 litres of water to the remaining mixture. What is the percentage of milk in the final mixture?
(a) 64 %
(b) 48 %
(c) 52 %
(d) 68 %
(e) 56 %

Q12. The cost price of article A is Rs. 100 more than the cost price of article B. Article A was sold at 40% profit and article B was sold at 40% loss. If the overall profit earned after selling both the articles is 5%, what is the cost price of article B ?
(a) Rs. 300
(b) Rs. 400
(c) Rs. 250
(d) Rs. 350
(e) Rs. 450

Q13. At present, the respective ratio between the ages of A and B is 3 : 4 and that between A and C is 1 : 2. Six years hence, the sum of ages of A, B and C will be 96 years. What is the present age of A ?
(a) 12 years
(b) 21 years
(c) 18 years
(d) 15 years
(e) 9 years

Q14. When one litre of water is added to a mixture of acid and water, the new mixture contains 20% acid. When one litre of acid is added to the new mixture, then the resulting mixture contains 33 ⅓% acid. The percentage of acid in the original mixture was
(a) 20%
(b) 22%
(c) 24%
(d) 25%
(e) None of these

Q15. 2 men can complete a piece of work in 6 days. 2 women can complete the same piece of work in 9 days, whereas 3 children can complete the same piece of work in 8 days. 3 women and 4 children worked together for 1 day. If only men were to finish the remaining work in a day, how many total men would be required?
(a) 4
(b) 8

(c) 6
(d) can't be determined
(e) None of these

Solutions

S1. Ans.(c)
Sol.
Let per kg price of Sugar initially was Rs. 100.
Then, total expenditure in a month was
$100 \times 30 = 3000$
After increase in price,
$x \times 132 = \frac{110}{100} \times 3000,$
where x = new monthly consumption
$\Rightarrow x = 25$ kg

S2. Ans.(c)
Sol.
Let the constant part be x and variable unit be y.
Then,
$x + 250y = 1000$ and
$x + 240y = 980$
On solving these equations, $x = 500$ and $y = 2$
$\therefore$ Required expense = 500 + 350 × 2
= Rs. 1200

S3. Ans.(c)

Sol.

According to question,

$(\ell - 5)(b + 3) = \ell b - 9$ where l = length of rectangle

$\Rightarrow \ell b + 3\ell - 5b - 15 = \ell b - 9$ b = breadth of rectangle

$\Rightarrow 3\ell - 5b = 6 \quad \ldots(i)$

$(\ell + 3)(b + 2) = \ell b + 67$

$\Rightarrow \ell b + 2\ell + 3b + 6 = \ell b + 67$

$\Rightarrow 2\ell + 3b = 61 \quad \ldots(ii)$

On solving (i) and (ii)

$b = 9$ m and $\ell = 17$ m

S4. Ans.(a)

Sol.

Let the amount of work (in units) completed by a man, a woman and a child in a day be M, W and C respectively. The amount of work (in units) completed by 4 men in 12 days = 4 × 12 × M = 48M.

The amount of work (in units) completed by 6 women in 10 days = 6 × 10 × W = 60W.

The amount of work (in units) completed by 8 children in 9 days = 8 × 9 × C = 72C.

So ATQ,

48M = 60W = 72C

or 4M = 5W = 6C =60K (say)

Hence, M = 15K, W= 12K and C = 10K.

The amount of work (in units) completed by a man, a woman and a child together in 10 days = (15 + 12 + 10) K× 10 = 370 K.

The amount of work (in units) completed by 2 women and 5 children together in a day = (2 × 12 + 5 ×10) K = 74K

Required number of days 370/74=5 days

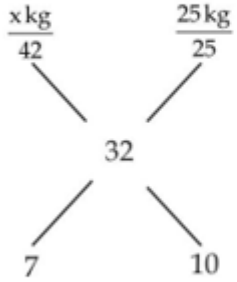
S5. Ans.(e)

Sol.

Let x kg of first variety is mixed with second

variety required cost price $= \frac{40}{125} \times 100 =$ Rs 32

Now apply allegation



Now $x = \frac{25}{10} \times 7$

$x = 17.5$ kg

S6. Ans.(a)

Sol.

Patter is

$23 \times 1 + 2 = 25$

$25 \times 3 + 4 = 79$

$79 \times 5 + 6 = 401$

$401 \times 7 + 8 = 2815$

$2815 \times 9 + 10 = 25345$

S7. Ans.(d)

Sol.

Pattern is

$\frac{14}{3} \times 1.5 + 1 = 8$

$8 \times 1.5 + 2 = 14$

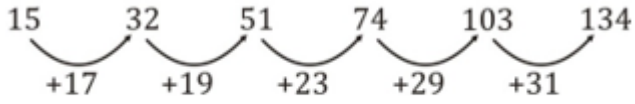
$14 \times 1.5 + 3 = 24$

$24 \times 1.5 + 4 = 40$

$40 \times 1.5 + 5 = 65$

S8. Ans.(b)

Sol.



Difference is prime no.

S9. Ans.(c)

Sol.

Pattern is

$-7, +14, -21, +28, -35$

S10. Ans.(b)

Sol.

Patter is

$4^3 - 1 = 63$

$5^3 - 1 = 124$

$6^3 - 1 = 215$

$7^3 - 1 = 342$

$8^3 - 1 = 511$

$9^3 - 1 = 728$

S11. Ans.(e)

Sol.

Initial quantity of water $= \frac{30}{100} \times 90 = 27$ li

And, milk = 90 – 27 = 63 li

Required percentage $= \frac{63 - 18 \times \frac{7}{10}}{90} \times 100 = 56\ \%$

Alternate

$\therefore$ Required percentage $= \frac{\frac{70}{100} \times (90 - 18)}{90} \times 100 = 56\%$

S12. Ans.(d)

Sol.

Let cost price of article B be Rs. x.

$\therefore$ Cost price of A = Rs. (x + 100)

Total selling price $= \frac{140}{100} \times (x + 100) + \frac{60}{100} \times x$

= (1.4x + 140) + 0.6x

= Rs (2x + 140)

$\therefore$ % overall profit (5%) $= \frac{2x + 140 - 2x - 100}{2x + 100} \times 100$

$\Rightarrow$ 10x + 500 = 4000

$\Rightarrow$ x = Rs. 350

S13. Ans.(c)

Sol.

Ratio of ages of A, B and C

= 3 : 4 : 6

Let their present ages

are 3x, 4x and 6x years respectively.

ATQ,

13x + 18 = 96

$\Rightarrow$ x = 6

$\therefore$ Present age of A = 18 years

S14. Ans.(d)

Sol.

Let initial quantity of mixture was x li.

$\therefore$ quantity of acid $= \frac{20}{100} \times (x + 1)$

$= \left(\frac{x+1}{5}\right)$ li

Now, again

$(x + 2) \times \frac{100}{300} = \left(\frac{x+1}{5} + 1\right)$

$\Rightarrow x = 4$ li

$\therefore$ original quantity of acid $= \frac{4+1}{5} = 1$ li

$\therefore$ Required percentage $= \frac{1}{4} \times 100 = 25\%$

S15. Ans.(b)

Sol.

One day work of one man, one woman and one child respectively

$= \frac{1}{12}, \frac{1}{18}$ and $\frac{1}{24}$

$\therefore$ Remaining work

$= 1 - \left(\frac{1}{18} \times 3 + \frac{1}{24} \times 4\right)$

$= \frac{2}{3}$

$\therefore$ 2/3 work will be completed in one day by

$= 12 \times 2/3 = 8$ men