Quiz Date: 17th June 2020

Q1. Amit sold an article for Rs. 15000. Had he offered a discount of 10% on the selling price, he would have earned a profit of 8%. What is the cost price ?
(a) Rs. 12500
(b) Rs. 13500
(c) Rs. 12250
(d) Rs. 13250
(e) Rs. 10350

Q2. Rs. 2,000 is invested at 10% p.a. on simple interest. If that interest is added to the principal after every 20 years, the amount will become Rs. 14,000 after
(a) 15 years
(b) $33\frac{1}{3}$ years
(c) $16\frac{2}{3}$ years
(d) 40 years
(e)None of these

Q3. Amit borrowed a certain sum of money for 2 years at 8% per annum on simple interest and immediately lent it to Ravi at compound interest at the same rate of interest and for the same time period and gained by Rs 16. What amount did Amit borrow?
(a) Rs 1600
(b) Rs 2500
(c) Rs 2400
(d) Rs 1800
(e) Rs 2200

Q4. A sum of money was invested for 14 years in Scheme A, which offered simple interest at a rate of 8% pa. The amount received from Scheme A after 14 years was then invested for two years in Scheme B, which offers compound interest (compounded annually) at a rate of 10% pa. If the interest received from Scheme B was Rs. 6678, what was the sum invested in Scheme A?
(a)Rs. 15500
(b)Rs. 14500
(c)Rs. 16000
(d)Rs. 12500
(e)Rs. 15000

Q5. The perimeter of a rectangular plot is 48 m and area is 108 m^2. The dimensions (length, breadth) of the plot are
(a) 36 m and 3 m
(b) 12 m and 9 m
(c) 27 m and 4 m

(d) 18 m and 6 m
(e) 6m and 18m

Q6. The respective ratio between the Minakshi's age after 3 years and Abhay's age 3 years ago is 10 : 9 and the respective ratio between the Minakshi's age 3 years ago and Abhay's age after 3 years is 17 : 21. What is Minakshi's present age ? (in years).
(a) 39
(b) 35
(c) 43
(d) 41
(e) 37

Q7. Ratio between speed of two boats A & B in still water is 4 : 3 and speed of current is 4 km/hr .Boat B starts from point P in downstream, two hours earlier than boat A and it is found that boat A is16 km ahead of boat B after 12 hours of its start. If boat A start from point Q in upstream and boat B start from point P in downstream at same time and distance between P and Q is 108 km, then find in what time boat A & B meet each other?
(a) $4\frac{6}{7} hours$
(b) $5\frac{6}{7} hours$
(c) $9\frac{6}{7} hours$
(d) $3\frac{6}{7} hours$
(e) $11\frac{6}{7} hours$

Q8. A man deposited his savings in 3 different schemes X, Y and Z and they offer SI at 10% per annum, SI at 6% per half year and CI at 10% per annum respectively. At the end of two years, total interest obtained by man from all the three schemes is Rs. 2580. Find initially total amount deposited by man, if amount invested in scheme Z is twice of each of scheme X and scheme Y and amount in both X and Y are same(in Rs.)?
(a) 3000
(b) 6000
(c) 9000
(d) 12000
(e) 6000

Q9. In how many ways word PERMUTATION written in which all vowels comes together?
(a) 19800
(b) 302400
(c) 78000
(d) 312400
(e) 4500

Q10. Difference between sum of 3 consecutive even numbers is 39 more than the sum of 3 consecutive odd number. If sum of smallest odd number and largest even number is 59 then find the sum of all six numbers.
(a) 175
(b) 170
(c) 167
(d) 177
(e) 155

Directions (11-15): What comes at the place of questions marks regarding given pattern of series
Q11. 22, 46, ?, 166, 262, 382, 526
(a) 104
(b) 94
(c) 124
(d) 86
(e) 118

Q12. 11, 25, 57, ?, 207, 341, 525
(a) 115
(b) 139
(c) 145
(d) 143
(e) 148

Q13. 128, ?, 480, 1680, 7560, 41580
(a) 128
(b) 232
(c) 186
(d) 284
(e) 192

Q14. 128, 256, 64, ?, 32, 64, 16
(a) 268
(b) 160
(c) 64
(d) 128
(e) 156

Q15. 250,   286,   ?,   450,   594,   790,   1046
(a) 305
(b) 315
(c) 350
(d) 635
(e) 600

Solutions

S1. Ans.(a)
Sol. New S.P. after discount $= \frac{90}{100} \times 15000 =$ Rs. 13500
$\therefore$ Required C.P. $= \frac{100}{108} \times 13500 =$ Rs. 12500

S2. Ans.(b);
    S. I after 20 years $= \frac{2000 \times 20 \times 10}{100} = 4000$
$\therefore$ New principle $= 2000 + 4000 = 6000$
Now, Let after 't' years the interest become $14000 - 6000 = 8000$
$8000 = \frac{6000 \times T \times 10}{100}$
$\therefore$ Time t $= \frac{8000 \times 100}{6000 \times 10} = \frac{40}{3}$ years.
$\therefore$ Total time $= 20 + \frac{40}{3} = \frac{100}{3} = 33\frac{1}{3}$ years

S3. Ans.(b)
Sol.
Let Amit borrowed an amount of Rs. P.
$P\left[\left(1 + \frac{8}{100}\right)^2 - 1\right] - \frac{P \times 8 \times 2}{100} = 16$
$\Rightarrow P\left[\frac{27^2 - 25^2}{625} - \frac{4}{25}\right] = 16$
$\Rightarrow P =$ Rs. 2,500

S4. Ans (e)
Sol. Let sum invested at scheme B = Rs. P

$$6678 = P\left[\left(1 + \frac{10}{100}\right)^2 - 1\right]$$

$$6678 = P\left(\frac{11}{10} \times \frac{11}{10} - 1\right)$$

$$6678 = P\left(\frac{21}{100}\right)$$

$$P = \frac{6678 \times 100}{21}$$

P = Rs. 31800

Now Let Required Sum = $Rs.\,x$

$$\therefore (31800 - x) = \frac{x \times 14 \times 8}{100}$$

$25 \times 31800 - 25x = 28x$

$53x = 31800 \times 25$

$x = 15000$ Rs.

S5. Ans.(d)
Sol.
Let length = ℓ m and breadth = b m
Perimeter = $2(\ell + b)$ m = 48 m
$\ell + b = 24$ ....(i)
area = $\ell b = 108$ ....(ii)
$(\ell + b)^2 = 576$
$\ell^2 + b^2 + 2\ell b = 576$
Subtracting $4lb$ from both the sides where $4lb = 4 \times 108 = 432$)
$\ell^2 + b^2 - 2\ell b = 144$
$\ell - b = 12$ ....(iii)
using (i) and (iii)
$\ell = 18$ m and $b = 6$ m

S6. Ans.(e)
Sol.
Let Present age of Meenakhi= x years
Present age of Abhay = y years
Now, according to question $= \frac{x+3}{y-3} = \frac{10}{9}$
$10y - 9x = 57$ ....(i)
and $\frac{x-3}{y+3} = \frac{17}{21}$
$21x - 17y = 114$ ....(ii)
$\therefore$ From eqn. (i) and (ii)
$x = 37\ years$ and $y = 39\ years$
$\therefore$ Meenakhi's present age = 37 years

S7. Ans(d)
Sol.
Let speed of boat A & B in still water be 4x km/hr and 3x km/hr respectively
Downstream speed of boat A = (4x + 4) km/hr
Downstream speed of boat B = (3x + 4) km/hr

AT Q –

12 (4x + 4) − 16 = 2 (3x + 4) + 12 (3x + 4)

48x + 48 − 16 = 6x + 8 + 36x + 48

6x = 24

x = 4 km/hr

Speed of boat A in still water = 16 km/hr

Speed of boat B in still water= 12 km/hr

Relative speed = (16 – 4) + (12 + 4) = 28 km/hr

Required time $= \dfrac{108}{28}$

$= 3\dfrac{6}{7} \ hours$

S8. Ans.(d)

Sol.

Let man invested amount 2a in scheme Z and a in each of scheme Y and X.

ATQ,

$\dfrac{(a\times 10\times 2)}{100}+\dfrac{a\times 6\%\times 2\times 2}{100}+\left[2a\left(1+\dfrac{10}{100}\right)^2-2a\right]$

Is total interest obtained

$=\dfrac{20a}{100}+\dfrac{24a}{100}+\left[\dfrac{242a}{100}-2a\right]$

$=\dfrac{20a+24a+42a}{100}=\dfrac{86a}{100}$

This total interest obtained in given = Rs. 2580

$\therefore \dfrac{86a}{100}=2580$

$a=\dfrac{2580\times 50}{43}=3000$ Rs.

Total amount invested initially is

a + a + 2a = 4a = Rs. 12000

S9. Ans.(b)

Sol.

Total letter = 11

Required wage $=\dfrac{7!5!}{2}$

$=302400$

S10. Ans.(d)

Sol.
Let even numbers is x, x+2, x+4
Let odd numbers is y, y+2, y+4
ATQ,
3x + 6 – 39 = 3y + 6
x – y = 13 ...(i)
and
y + x + 4 = 59
x + y = 55 ...(ii)
Solving (i) and (ii)
y = 21, x = 34
sum → 177 = 21 + 23 + 25 + 34 + 36 + 38

S11. Ans.(b)
Sol.
$22+24× 1= 46$
$46+24× 2= 94$
$94+24× 3= 166$
$166+24× 4= 262$
$262+24× 5= 382$
$382+24× 6= 526$
$?= 94$

S12. Ans.(a)
Sol.
$11+(4^2 − 2) = 25$
$25+(6^2 − 4) = 57$
$57+(8^2 − 6) = 115$
$115+(10^2 − 8) = 207$
$207+(12^2 − 10) = 341$
$341+(14^2 − 12) = 525$

S13. Ans.(e)
Sol.
$128× \frac{3}{2} = 192$
$192× \frac{5}{2} = 480$
$480× \frac{7}{2} = 1680$
$1680× \frac{9}{2} = 7560$
$7560× \frac{11}{2} = 41580$

S14. Ans.(d)
Sol.
$128× 2 = 256$

$256 \div 4 = 64$
$64 \times 2 = 128$
$128 \div 4 = 32$
$32 \times 2 = 64$
$64 \div 4 = 16$

S15. Ans.(c)
Sol.
$250 + 6^2 = 286$
$286 + 8^2 = 350$
$350 + 10^2 = 450$
$450 + 12^2 = 594$
$594 + 14^2 = 790$
$790 + 16^2 = 1046$