Quiz Date: 30th August 2020

Q1. If the compound interest is 10% per annum and simple interest is 11% per annum. Find the difference between the interests obtained after 3 years on a sum of Rs 15346?(same sum is invested at both CI and SI)
(a)Rs. 24.546
(b)Rs. 12.244
(c)Rs. 15.346
(d)Rs. 30.692
(e)Rs. 14.231

Q2. A certain sum of money becomes 8 times of itself in 20 years at simple interest. In how many years does it becomes 22 times of itself at the same rate of simple interest?
(a) 60 years
(b) 50 years
(c) 65 years
(d) 66.66 years
(e) 52 years

Q3. 15 men can complete a work in 8 days while 10 women can complete the same work in 20 days. 7 men starts working and after 12 days they are replaced by 10 women. Find time taken by 10 women to complete the remaining work.
(a) 5 days
(b) 8 days
(c) 7 days
(d) 6 days
(e) 9 days

Q4. A mixture of 25 ℓ contains milk and water in the ratio 3 : 2. 'x' ℓ of water is added in mixture to make the ratio of milk and water as 1 : 1. After that 'y' ℓ of milk is added to make the proportion of milk and water same as in initial condition. Find 'y' is what percent more than 'x' ?
(a) 12.5%
(b) 25%
(c) 37.5%
(d) 50%
(e) 62.5%

Q5. The average age of 10 students in a class is 20 years, if a new student is also included, then the new average age of all the students increases by 1 year. The age of the new student is:
(a) 21 years
(b) 30 years
(c) 31 years
(d) 32 years
(e) 28 years

Directions (6-10) : What will come in place of questions mark (?) in the following questions?

Q6. $\sqrt{\sqrt{784} + \sqrt{441}} = ?^2 + 3$
(a) 2
(b) 3
(c) 4
(d) 5
(e) 6

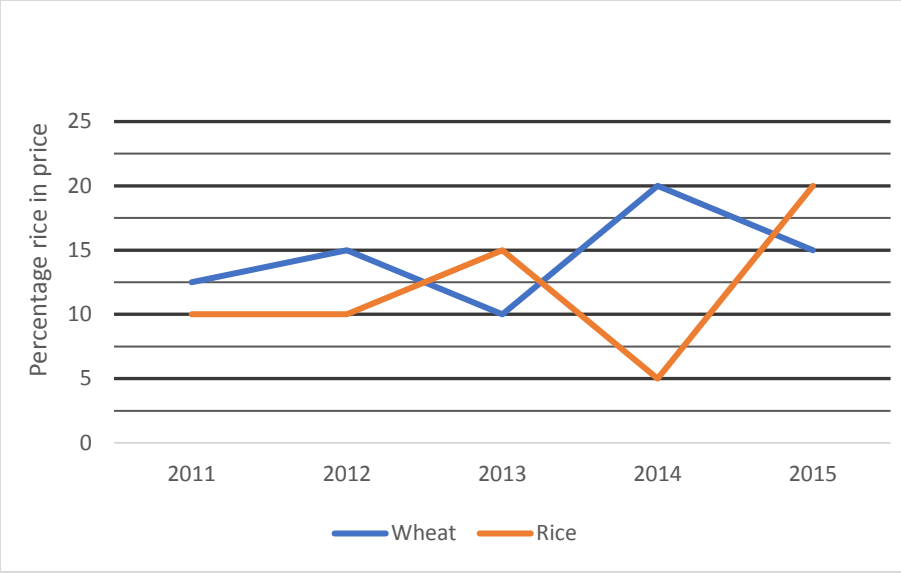
Q7. $6\frac{12}{17} \times 1\frac{15}{19} + 15 = ?^3$
(a) 2
(b) 3
(c) 4
(d) 5
(e) 6

Q8. $87.5\ \%\ of\ 64 + \frac{1}{6} \times 36 + 38 = ?$
(a) 80
(b) 110
(c) 120
(d) 90
(e) 100

Q9. $3^{\frac{2}{3}} \times 3^{\frac{1}{3}} \times 3^3 = 9^?$
(a) 1
(b) 2
(c) 3
(d) 4
(e) 5

Q10. $\sqrt{156 + 13} + ? = \sqrt{176 + 20}$
(a) 3
(b) 455
(c) 2
(d) 1
(e) 5

Directions (11-15): Study the following line graph and answer the questions based on it. Given below is the line graph which shows the percentage rise in price of Wheat & Rice over the given years.



Q11. If ratio between price of rice & wheat in 2014 is 3 : 4 then what will be their ratio of price in 2015 ?
(a) 20 : 23
(b) 19 : 21
(c) 18 : 23
(d) 23 : 28
(e) 17 : 19

Q12. If price of wheat in year 2011 is 7200 Rs per quintal then what will be its price in year 2013 per quintal?
(a) 8420
(b) 9012
(c) 10500
(d) 83250
(e) 9108

Q13. What is the effective percentage increase in price of wheat from year 2011 to year 2013?
(a) 30%
(b) 22%
(c) 23.5%
(d) 26.5%
(e) 32.75%

Q14. If a person expends Rs 4140 in buying rice at the rate of 120 Rs/kg in year 2012 then he has to reduce his consumption of rice by how many kg in year 2013 for the same expenditure of 4140?
(a) 4.5 kg
(b) 3 kg
(c) 2 kg

(d) 2.5 kg
(e) 4 kg

Q15. If the price of wheat in 2013 is 132 Rs/kg then what will be total cost of 25 kg of wheat in 2012 ?
(a) 1250 Rs
(b) 3000 Rs
(c) 1500 Rs
(d) 2000 Rs
(e) 2500 Rs

Solutions

S1. Ans (c)
Sol.
ATQ,
Interest difference= $principal\left[\left(1+\frac{rate}{100}\right)^{time}-1\right]-\frac{principal\times rate\times time}{100}$
$=15346\left[\left(1+\frac{10}{100}\right)^{3}-1\right]-\frac{15346\times 11\times 3}{100}$
$=15346\left(\frac{331}{1000}-\frac{33}{100}\right)$
$=15346\times\frac{1}{1000}$
=Rs.15.346

S2. Ans (a)
Sol.
Let principal = Rs.P
ATQ,
$7P=\frac{P\times rate\times 20}{100}$
Rate=35%
So,
$21p=\frac{P\times 35\times time}{100}$
Time= 60 years

S3. Ans (d)
Sol.
$15M\times 8=10W\times 20$
$3M=5W$
ATQ
Let time taken by 10 women to complete the remaining work be T days
$7M\times 12+10W\times T=10W\times 20$
$\frac{35}{3}W\times 12+10W\times T=200W$
$10T=200-140$

$T = \frac{60}{10} = 6\ days$

S4. Ans.(d)
Sol.
ATQ,
Initially Quantity of milk
$= \frac{3}{5} \times 25 = 15\ell$
Initially quantity of water
$= \frac{2}{5} \times 25 = 10\ell$
'x' ℓ of water is added to make the ratio of milk and water 1 : 1 ⇒ Quantity of milk initially is same as quantity of water after adding 'x' ℓ water = 15ℓ.
⇒ x = 15 – 10 = 5ℓ
Quantity of total mixture now = 25 + 5 = 30ℓ.
'y' ℓ of milk is added now to make the proportion of milk and water same as before = 3 : 2
$\Rightarrow \frac{3}{5} = \frac{15+y}{30+y}$
⇒ 90 + 3y = 75 + 5y
2y = 90 – 75
y = 7.5 ℓ
Required % $= \frac{7.5-5}{5} \times 100$
$= \frac{2.5}{5} \times 100 = 50\%$

S5. Ans.(c)
Sol. Age of new student $= 20 + \left(1 + \frac{10}{1}\right) \times 1$
= 20 + 11
= 31

S6. Ans(a)
Sol. $\sqrt{\sqrt{784} + \sqrt{441}} = ?^2 + 3$
$\sqrt{28 + 21} = ?^2 + 3$
$?^2 = 7 - 3$
$\therefore ? = \sqrt{4}$
So, ?=2

S7. Ans(b)
Sol. $\frac{114}{17} \times \frac{34}{19} + 15 = ?^3$
15+12 = $?^3$
?= $\sqrt[3]{27}$
So, ?= 3

S8. Ans(e)
Sol. $\frac{7}{8} \times 64 + \frac{1}{6} \times 36 + 38 = ?$

$56 + 6 + 38 = ?$
So,?=100

S9. Ans(b)
Sol. $3^{\frac{2}{3}+\frac{1}{3}+3} = 9^{?}$
$3^4 = 3^{(2\times ?)}$
So, ?= 2

S10. Ans(d)
Sol. $\sqrt{169}+? = \sqrt{196}$
?= 14-13
So, ?=1

S11. Ans.(c)
Sol.
Let the price of rice and wheat in 2014 be 3x and 4x
Ratio of price of rice to price of wheat in 2015 = (120% of 3x) : (115% of 4x)
= 18 : 23

S12. Ans.(e)
Sol.
Price of wheat in 2013 = $= 7200 \times \frac{115}{100} \times \frac{110}{100}$
= 9108

S13. Ans.(d)
Sol.
Let price of wheat in 2011 = 100
so, price of wheat in 2013 = $\frac{115}{100} \times \frac{110}{100} \times 100$
= 126.5
So, effective increases equals = 26.5%

S14. Ans.(a)
Sol.
In 2012 person buys $= \frac{4140}{120}$ kg of Rice
So, in 2013 person buys $= \frac{4140}{\frac{115}{100}\times 120}\ kg\ of\ rice$
So decrease in consumption = 34.5 – 30
= 4.5 kg

S15. Ans.(b)
Sol.
Price per kg of wheat in 2012 $= \frac{132\times 100}{110}$
= 120

Total cost for 25 kg of wheat in 2012 = 120 × 25
= 3000 Rs