Quiz Date: 25ᵗʰ April 2020

Q1. The sum of three numbers is 177. If the ratio of the first to the second is 5:7 and that of second to the third is 21 :23 then the second number is:
(a) 21
(b) 63
(c) 37
(d) 66
(e) 77

Q2. The cost price of 42 articles is the same as the selling price of x articles. If the profit is $\frac{50}{3}$%, then the value of x is:
(a) 39
(b) 33
(c) 37
(d) 36
(e) 41

Q3. A can do a work in 15 days and B in 20 days. If they work on it together for x days, and 5/12 of work is left then find out the value of x :
(a) 5 days
(b) 7 days
(c) 6 days
(d) 4 days
(e) 3 days

Q4. The compound interest on Rs. 50,000 at 9% per annum is Rs. 9405. The period (in years) is:
(a) 3 years
(b) 4 years
(c) 2 years
(d) 2.5 years
(e) 3.5 years

Q5. A papaya tree was planted 3 years ago. It increases at the rate of 9.09% every year. If at present, the height of the tree is 1728 cm, what was its height when the tree was planted?
(a) 1300 cm
(b) 1400 cm
(c) 1377 cm
(d) 1433 cm
(e) 1331 cm

Directions (6-10): Study the table carefully and answer the related questions. The following table shows the speed of three different trains and time taken by these trains to travel a certain distance.

	Speed	Time
P	100 kmph	1 hr and 15min
Q	120 kmph	2 hr
R	90 kmph	1hr

Q6. Find the ratio of distance covered by P to that of Q.
(a) 48 : 25
(b) 25 : 48
(c) 36 : 31
(d) 31 : 36
(e) 46 : 27

Q7. By what percent R should increase its speed so that it can cover the same distance in 45 min.
(a) 33 ⅓ %
(b) 25%
(c) 30%
(d) 40%
(e) 45%

Q8. Find the ratio of distances covered by all of them.
(a) 25 : 18 : 48
(b) 25 : 48 : 18
(c) 48 : 25 : 18
(d) 25 : 30 : 31
(e) None of these

Q9. Speed of A is how much percent more than speed of R.
(a) $9\frac{1}{11}\%$
(b) $12\frac{1}{2}\%$

(c) 15%

(d) $11\frac{1}{9}\%$

(e) 10%

Q10. If speed of Q is reduced by 15%, then time will increase to cover the same distance by approximately what percent.
(a) 17.5%
(b) 20%
(c) 25%
(d) 15%
(e) 28%

Directions (11-15): The data in the table given below shows the selling price, profit obtained and discount percentage on 4 items of a store. Some data are missing in this table and you have to calculate missing data according to the questions.
Study the data carefully and answer the following questions.

Items	Selling price (Rs)	Profit (Rs)	Discount %
A	450	120	10%
B	-	75	12.5%
C	750	-	25%
D	1000	200	-

Q11. What is the marked price of the article A?
(a) Rs 540
(b) Rs 460
(c) Rs 500
(d) Rs 600
(e) Rs 480

Q12. What is the selling price of the article B, if marked price of article B is 20% above the cost price?
(a) Rs 1775
(b) Rs 1500
(c) Rs 1850
(d) Rs 1625
(e) Rs 1575

Q13. If ratio between profit earned on article B and article C is 3 : 4, find the cost price of article C?
(a) Rs 650
(b) Rs 600

(c) Rs 680
(d) Rs 700
(e) Rs 750

Q14. Find the profit percentage earned on article D?
(a) 20%
(b) 22.5%
(c) 15%
(d) 25%
(e) 17.5%

Q15. If profit amount on article B and discount amount of article B is same, then find the selling price of article B?
(a) Rs 450
(b) Rs 525
(c) Rs 625
(d) Rs 575
(e) Rs 475

Solutions
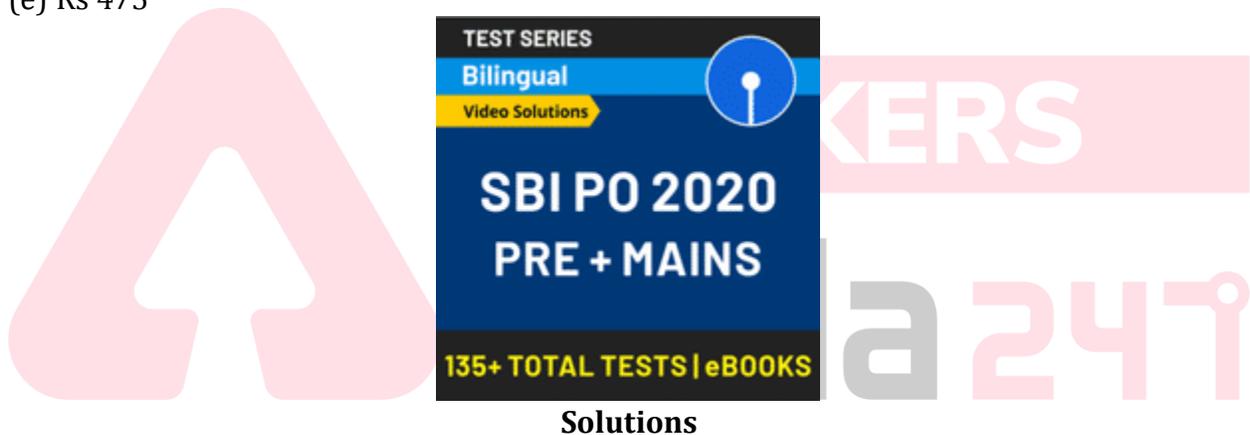
S1. Ans.(b)
Sol.
Let three numbers are a, b and c.
$a:b = 5:7;$ $b:c = 21:23$
So, $a:b:c = 15:21:23 \ or \ 15x : 21x : 23x$
15x + 21x + 23x = 177
x = 3
second number = 21x = 21 × 3 = 63

S2. Ans.(d)
Sol.
Profit = $\frac{50}{3}\% = 16\frac{2}{3}\%$
= $\frac{100}{6}\%$
Let C.P. = Rs. 100

S.P. = $100\left(100 + \frac{100}{6}\right) = Rs.\frac{700}{6}$

Cost price of 42 articles = selling price of x articles

42 CP = x × SP

$\frac{SP}{CP} = \frac{42}{x}$

$\frac{700}{6 \times 100} = \frac{42}{x}$

x = 36

S3. Ans.(a)
Sol.

1 day work of A = $\frac{1}{15}$ Unit

And 1 day work of B = $\frac{1}{20}$ Unit

x days work of A and B together = $\frac{x}{15} + \frac{x}{20}$

and in x days work completed = $1 - \frac{5}{12} = \frac{7}{12}$ units

$\frac{x}{15} + \frac{x}{20} = \frac{7}{12}$

$x\left(\frac{4+3}{60}\right) = \frac{7}{12}$

x = 5 days

S4. Ans.(c)
Sol.

CI = Rs. 9405

Amount = 50,000+9405 = Rs. 59405

$59405 = 50000\left(1 + \frac{9}{100}\right)^t$

$\frac{59405}{50000} = \left(\frac{109}{100}\right)^t$

$\left(\frac{109}{100}\right)^t = \frac{11881}{10000}$

$\left(\frac{109}{100}\right)^t = \left(\frac{109}{100}\right)^2$

t=2 years

S5. Ans.(e)
Sol.

Growth rate = 9.09%

$= \frac{100}{11}\% = \frac{1}{11}$

Let 3 years ago height of tree = x cm

$x \times \frac{12}{11} \times \frac{12}{11} \times \frac{12}{11} = 1728$ cm

x = 1331 cm

S6. Ans.(b)
Sol.

Distance covered by P

$$= \frac{100 \times 75}{60} = 125 \text{ km}$$

Distance covered by Q = 120 × 2 = 240

Required ratio $= \dfrac{125}{240}$

= 25 : 48

S7. Ans.(a)
Sol.

Let new speed for R be x

⇒ 90 × 60 = x × 45

         x = 120 kmph

Percentage increase in speed

$$= \left[\frac{120 - 90}{90}\right] \times 100$$

$$= \frac{100}{3}\% = 33\frac{1}{3}\%$$

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Ace Reasoning | Quant | English
Puzzle | Data Interpretation
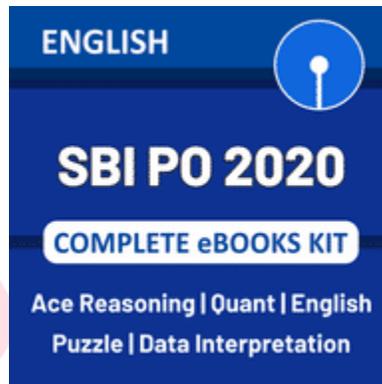
S8. Ans.(b)
Sol.

Distance ratio is

$$\frac{100 \times 75}{60} : 120 \times 2 : 90 \times 1$$

25 : 48 : 18

S9. Ans.(d)
Sol.

$$Required\ percentage = \left[\frac{100 - 90}{90}\right] \times 100$$

$$= \frac{100}{9}\%$$

$$= 11\frac{1}{9}\%$$

S10. Ans.(a)
Sol.
New speed of B
$$= 120 \times \frac{85}{100} = 102 \text{ kmph}$$
Let the new time be t
$\therefore 120 \times 2 = 102 \times t$
$$t = \frac{240}{102} \text{ hrs.}$$
Percentage Increase in time
$$= \left(\frac{\frac{240}{102} - 2}{2}\right) \times 100$$
$$= 17.5\%$$

S11. Ans (c)
Sol. Marked price of article A $= 450 \times \frac{100}{90} = Rs\ 500$

S12. Ans (e)
Sol. let cost price of article B be Rs 10x.
ATQ
$10x + 75 = 10x \times \frac{120}{100} \times \frac{87.5}{100}$
$10x + 75 = 10.5x$
$x = 150$
So, selling price of article B $= 1500 + 75 = Rs\ 1575$

S13. Ans (a)
Sol. Cost price of article C $= 750 - 75 \times \frac{4}{3} = 750 - 100$
$= Rs\ 650$

S14. Ans (d)
Sol. Required profit percentage $= \frac{200}{1000-200} \times 100 = \frac{200}{800} \times 100$
$= 25\%$

S15. Ans (b)
Sol. let marked price of article B be Rs 100x.
ATQ
$12.5x = 75$
$so,$ selling price $= 87.5x = 75 \times \frac{87.5}{12.5} = Rs\ 525$

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