Quiz Date: 31st August 2020

Q1. A is greater than B by ¼ the sum of A and B. If B is increased by 45, it becomes greater than twice of A by 10. Find 2A + B.
(a) 85
(b) 65
(c) 75
(d) 45
(e) 55

Q2. Father is aged three times more than the age of his son Ronit. After 8 years, he would be two and a half times of Ronit's age. After further 8 years, how many times would he be of Ronit's age ?
(a) 2 times
(b) $2\frac{1}{2}$ times
(c) $2\frac{3}{4}$ times
(d) 3 times
(e) 4 times

Q3. Two vessels A and B contain milk and water mixed in the ratio 5 : 3 and 2 : 3. When these mixture are mixed to form a new mixture containing half milk and half water, they must be taken in the ratio
(a) 2 : 5
(b) 3 : 5
(c) 4 : 5
(d) 7 : 3
(e) 5 : 4

Q4. The ratio of the quantities of an acid and water in a mixture is 1 : 3. If 5 liters of acid is further added to the mixture, the new ratio becomes 1 : 2, the quantity of new mixture in litre is:
(a) 32
(b) 40
(c) 42
(d) 45
(e) 55

Q5. A boat goes 6 km an hour in still water but takes thrice as much time in going the same distance against the current than going with the current. The speed of the current (in km/hour) is:
(a) 4
(b) 3

(c) 5
(d) 18
(e) None of these

Q6. A reduction of 10% in the price of wheat enables a man to buy 50 g of wheat more for a rupee. How much wheat could originally be had (in grams) for a rupee?
(a) 400
(b) 500
(c) 450
(d) 350
(e) 550

Q7. In an examination 70% of the candidates passed in English. 80% passed in Mathematics. 10% failed in both the subjects. If 144 candidates passed in both, the total number of candidates was
(a) 125
(b) 200
(c) 240
(d) 375
(e) 425
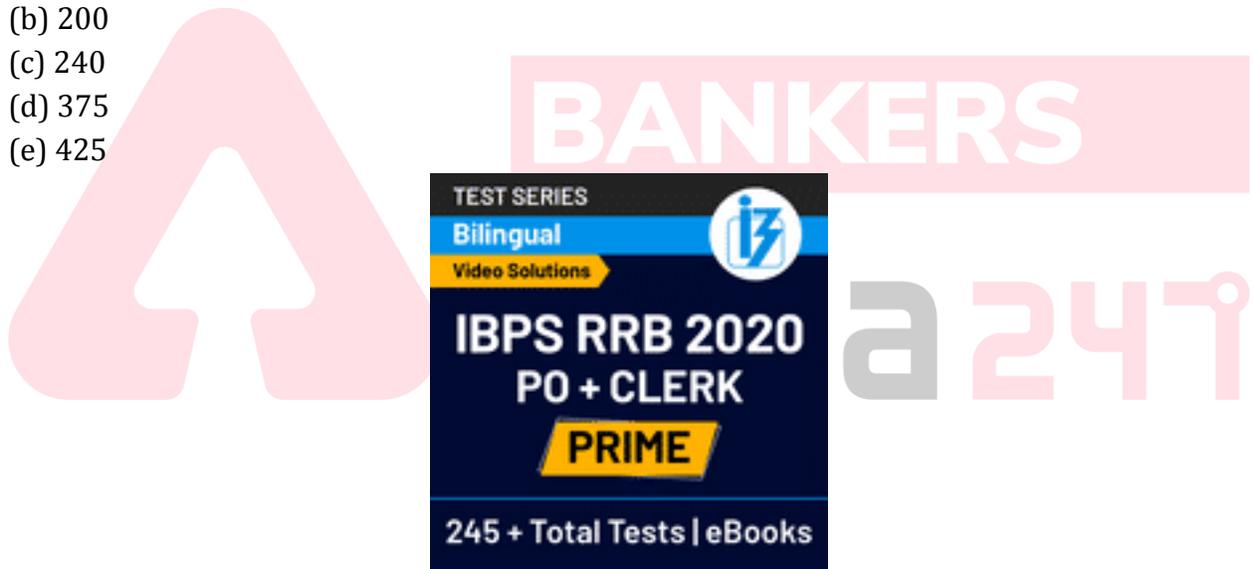
Q8. A sum of money lent out at simple interest amounts to Rs. 720 after 2 years and to Rs. 1020 after a further period of 5 years. The sum is:
(a) Rs. 500
(b) Rs. 600
(c) Rs. 700
(d) Rs. 710
(e) Rs. 810

Q9. The compound interest on a sum of Rs. 4000 is Rs. 630.50 in 9 months. Find the rate of interest, if interest is compound quarterly.
(a) 20%
(b) 23%
(c) 19%

(d) 21%
(e) 25%

Q10. A trader marked his goods at 20% above the cost price. He sold half the stock at the marked price, one quarter at a discount of 20% on the marked price and the rest at a discount of 40% on the marked price. His total gain is
(a) 2%
(b) 4.5%
(c) 13.5%
(d) 15%
(e) 12%

Q11. The difference between a number and 1/7 of that number is same as the sum of all the angles of a triangle. What is the number?
(a) 240
(b) 210
(c) 175
(d) 225
(e) 205

Q12. A and B enter into a partnership with Rs. 50,000 and Rs. 60000 respectively. C joins x months before end of the year with the capital of Rs. 70000 and B leaves them after x months from the start of the year. If they share the profit the ratio of 20 : 18 : 21, then find the value of x.
(a) 6 months
(b) 3 months
(c) 9 months
(d) 8 months
(e)10 months

Q13. In a group of 6 boys and 4 girls, four children are to be selected. In how many different ways can they be selected such that at least one boy should be there?
(a) 159
(b) 194
(c) 205
(d) 209
(e) 169

Q14. Two dice are thrown simultaneously. What is the probability that the sum of the two numbers appearing on the top of the dice is 7.
(a) 1/6
(b) 1/5
(c) 3/5
(d) 1/3
(e) 5/6

Q15. Divide Rs. 7500 among A, B and C such that A's share to B's share is in the ratio 5 : 2 and B's share to C's share is in the ratio 7 : 13. How much will B receive ?
(a) Rs. 1400
(b) Rs. 3500
(c) Rs. 2600
(d) Rs. 7000
(e) Rs. 7500

Solutions

S1. Ans.(b)
Sol.
According to first condition
$A = B + \dfrac{1}{4} \times (A + B)$
$\Rightarrow 3A = 5B$ ...(i)
According to second condition,
$B + 45 = 2A + 10$
$2A - B = 35$
Put $A = \dfrac{5B}{3}$
$\therefore \dfrac{10B}{3} - B = 35$
$\Rightarrow B = 15$
$\therefore A = 25$
$\therefore$ Required answer = 50 + 15 = 65

S2. Ans.(a)
Sol.
Let Ronit's age = x years
$\therefore$ Father's age = x + 3x = 4x years
ATQ,
$4x + 8 = \dfrac{5}{2} \times (x + 8)$
$\Rightarrow 8x + 16 = 5x + 40$
$\Rightarrow x = 8$ years
$\therefore$ Father's age after further 8 years
= 32 + 8 + 8
= 48 years
$\therefore$ Required answer $= \dfrac{48}{24}$
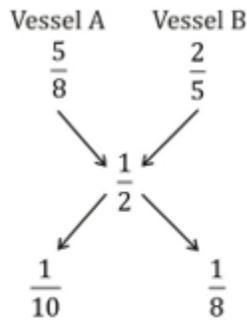= 2 times

S3. Ans.(c)

Sol.
According to low of mixture

Vessel A   Vessel B
$\frac{5}{8}$ $\frac{2}{5}$

$\frac{1}{2}$

$\frac{1}{10}$ $\frac{1}{8}$

∴ Required ratio

$= \frac{1}{10} : \frac{1}{8}$

$= 4 : 5$

S4. Ans.(d)
Sol. Let the quantities of acid and water be x litre and 3x litre respectively
$(x + 5) : 3x = 1 : 2$
$3x × 1 = (x + 5)\, 2 \Rightarrow x = 10$
The quantity of new mixture = x + 3x + 5 = 4x + 5 = 40 + 5 = 45 litre

S5. Ans.(b)
Sol.
Speed of boat in still water
= 6 km/h
Let speed of current = s km/h
A.T.Q,
$\frac{d}{6-s} = 3 \times \frac{d}{6+s}; d = Distance$
∴ $18 - 3s = 6 + s$
$\Rightarrow s = 3\, km/h$

S6. Ans.(c)
Sol.
Due to reduced price of 10%, we can
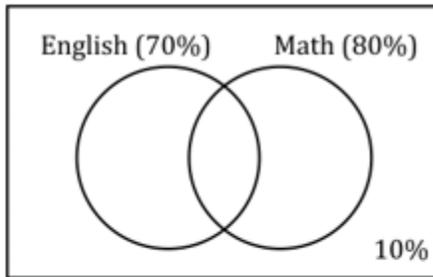buy 50 g of wheat for 10 paisa
∴ $10 \rightarrow 50$
$100 \rightarrow 500$
∴ original quantity = $(500 - 50)$
= 450 gm

S7. Ans.(c)

Sol.

Students who passed in both = 80 + 70 – 90

= 150 – 90

= 60 %

∴ 60% → 144

100% → $\frac{144}{60} \times 100 = 240$

S8. Ans.(b)
Sol.
Let sum is Rs. P and rate be R% per annum

$\therefore P + \frac{2PR}{100} = 720$ ____(i)

And $P + \frac{7PR}{100} = 1020$ ____(ii)

$\Rightarrow \frac{2PR}{100} = 720 - P$

And $\frac{7PR}{100} = 1020 - P$

$\Rightarrow \frac{2}{7} = \frac{720-P}{1020-P}$

$\Rightarrow 2040 - 2P = 5040 - 7P$

$\Rightarrow P = Rs. 600$

S9. Ans.(a)
Sol.
Let rate percent per annum be R%

$\therefore 630.5 = 4000 \left(1 + \frac{R}{400}\right)^{4 \times \frac{3}{4}} - 4000$

$4630.5 = 4000 \left(1 + \frac{R}{400}\right)^3$

$\Rightarrow \left(1 + \frac{R}{100}\right)^3 = \left(\frac{21}{20}\right)^3$

$\Rightarrow R = 20\%$

S10. Ans.(a)
Sol.

Let the C.P. of an item be x and no. of items be A.

Total C.P.= Ax

Total S.P. $= 1.2x \times \frac{A}{2} + \frac{4}{5} \times \frac{6}{5}x \times \frac{A}{4} + \frac{6}{10} \times \frac{6}{5} \times x \times \frac{A}{4}$

$= \frac{3Ax}{5} + \frac{6Ax}{25} + \frac{9Ax}{50}$

$= \frac{51Ax}{50}$

$= 1.02Ax$

$\therefore$ 2%profit

S11.Ans.(b)

Sol.

According to Question

$x - \frac{x}{7} = 180$

Or, $6x = 180 \times 7$

Or, $x = 210$

S12. Ans.(c)

Sol.

Ratio of their investments

$A : B : C = 50,000 \times 12 : 60,000 \times x : 70,000 \times (12 - x)$

$60 : 6x : 7 (12 - x)$

Now, $\frac{60}{6x} = \frac{20}{18} \Rightarrow x = 9$

S13. Ans.(d)

Sol.

At least one boy = Total ways – no boys

$= {}^{10}c_4 - {}^4c_4$

$= \frac{10 \times 9 \times 8 \times 7}{4 \times 3 \times 2} - 1$

$= 210 - 1$

$= 209$

S14. Ans.(a)
Sol. Favorable cases
= (1, 6) or (2, 5) or (3, 4) or (4, 3) or (5, 2) or (6, 1)
= 6

$\therefore$ Required probability $= \dfrac{6}{36} = \dfrac{1}{6}$

S15. Ans.(a)
Sol.

A : B = 5 : 2   and B : C = 7 : 13

$\therefore$ A : B : C = 35 : 14 : 26

$\therefore$ B's share $= \dfrac{14}{75} \times 7500$

= Rs. 1400

For any Banking/Insurance exam Assistance, Give a Missed call @ 01141183264