# Arithmetic Word Problems Based Practice Set PDF for IBPS RRB PO & Clerk Prelims 2020 (Solutions)

**S1. Ans.(b)**

**Sol.** ATQ –

$90 \times \frac{5}{18} = \frac{180+240}{T}$

$25 = \frac{420}{T}$

T = 16.8 sec

Length of tunnel = (7.2 +16.8) × 25 – 180

= 600 – 180

= 420 m

**S2. Ans.(c)**

**Sol.** Distance covered by P between 5 pm to 5:30 pm

$= 40 \times \frac{1}{2}$

= 20 km.

To cover these 20 kms,

Q will take $\frac{20}{30} = \frac{2}{3}$ hrs. = 40 minutes

Q will reach at point X after (30 + 40) = 70 minutes.

Hence Q got late by 70 minutes.

**S3. Ans.(a)**

**Sol.** 1 day work of A $= \frac{1}{30}$ unit

10 days work of A $= \frac{1}{3}$ unit

rest work $\left(1 - \frac{1}{3} = \frac{2}{3}\ unit\right)$ done by B in 40 days.

1 day work of B $= \frac{\frac{2}{3}}{40} = \frac{1}{60}$ unit

1 day work of A + B $= \frac{1}{30} + \frac{1}{60} = \frac{3}{60} = \frac{1}{20}$ unit

(A+B) can complete the whole work in 20 days.

**S4. Ans.(a)**

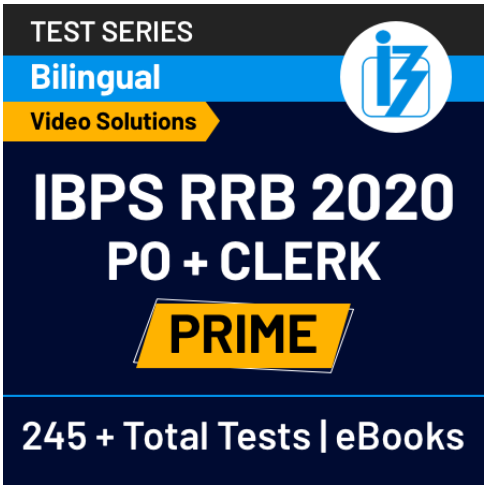
**Sol.** Let x men could complete this work in 27 days

So, (x+10) men can complete the same work in $27 - 9 = 18$ days

i.e. 27 × x = 18 × (x+10)

9x = 180

$\boxed{x = 20 \text{ men}}$



**S5. Ans.(c)**

**Sol.** 1 day work of A = $\frac{1}{30}$unit

1 day work of B = $\frac{1}{40}$ unit

Let total time taken to finish the work is 't' days

$\frac{t-10}{30}+\frac{t}{40}=1$

$\frac{t}{30}+\frac{t}{40}=1+\frac{1}{3}=\frac{4}{3}$

$\frac{7t}{120}=\frac{4}{3}$

t = $\frac{160}{7}$ days

**S6. Ans.(b)**

**Sol.** Let usual speed = S kmph, usual time = t minutes

St=$\frac{5}{3}$S(t−$\frac{1}{3}$)

$t=\frac{5}{6}\times 60=50$minutes

**S7. Ans.(d)**

**Sol.** $9=\frac{12+x\times\frac{3}{2}}{2+\frac{3}{2}}$

$x=13$ km/h

**S8. Ans.(b)**

**Sol.**

Let length and speed of the train be L meter and S m/s respectively.

ATQ

$L=12S\ldots\ldots..(i)$

And, $450+L=27S$

$L=27S-450\ldots\ldots..(ii)$

From (i) and (ii)

$15S=450$

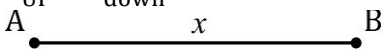
$S=30$

$\therefore\ S=30\times\frac{18}{5}=108$ kmph

**S9. Ans.(d)**

**Sol.**

$S_{UP}:\ S_{down}=4:\ 8$




$\frac{x}{4}+\frac{x}{8}=\frac{45}{60}$

$\Rightarrow\frac{3x}{8}=\frac{45}{60}$

$\Rightarrow x=2$km

AB = 2 km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**S10. Ans.(b)**

**Sol.** Let D be the distance

$\frac{2D}{7.5+x} = \frac{D}{7.5-x}$

or, $15 - 2x = 7.5 + x$

or, $x = 2.5$ km/hr

**S11. Ans.(d)**

**Sol.** Probability all marbles are of same color $= \frac{5c_3+4c_3+3c_3}{12c_3} = \frac{3}{44}$

Req. probability = $1 - \frac{3}{44} = \frac{41}{44}$

**S12. Ans.(c)**

**Sol.** Total bad oranges = $510 \times \frac{70}{1700}$

= 21

∴ Required probability = $\frac{(510-21)}{510}$

$= \frac{163}{170}$

**S13. Ans.(b)**

**Sol.** Required number of rearrangements $= \frac{9!}{3!\times 2!} = 30240$

**S14. Ans.(a)**

**Sol.** Number of words ending with I $= \frac{8!}{2!}$

Number of words that begin with M and end with I $= \frac{7!}{2!}$

∴ Required number $= \frac{8!}{2!} - \frac{7!}{2!} = \frac{7!}{2!}(8-1) = 7 \times 2520 = 17640$

**S15. Ans.(c)**

**Sol.** Ratio of profit share of A and B

A : B

$35000 \times 4 + 35000 \times 1.2 \times 8$ $42000 \times 4 + 42000 \times 0.8 \times 8$

476000 436800

85 78

Let profit of A and B are Rs 85x and Rs 78x respectively.

ATQ

$85x - 78x = 1960$

$x = 280$

So, required profit = 85x = Rs 23800

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**S16. Ans.(a)**

**Sol.** Ratio of profit share of Sanjay : Deepak : Praveen

$\Rightarrow$ $5x \times 12 : 4x \times 12 : 4x \times 6$

$\Rightarrow$ $5 : 4 : 2$

Let profit of Sanjay, Deepak and Praveen be Rs 5a, 4a and 2a respectively.

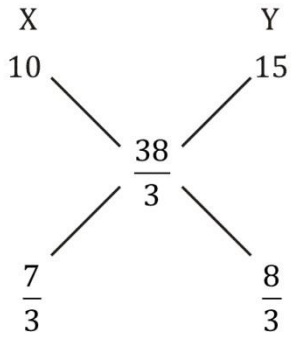
So, $11a = 2420$

$\therefore$ required profit $= 6a =$ Rs 1320

**S17. Ans.(d)**

**Sol.** Since Pigeon gets 38 gm protein from 300 gm diet

$\therefore$ % protien diet $= \frac{38}{300} \times 100 = \frac{38}{3}\%$




X : Y = 7 : 8

$\therefore$ Quantity of X $= \frac{7}{15} \times 300 = 140$ gm

**S18. Ans.(e)**

**Sol.** We have $\frac{S-1}{G-1} = \frac{3}{4} \Rightarrow 4S - 3G \Rightarrow 1$ (1)

And $\frac{S+1}{G+1} = \frac{10}{13} \Rightarrow 13S - 10G \Rightarrow -3$ (2)

Solving (1) & (2), we have, S= 19 years.

**S19. Ans.(a)**

**Sol.** In 1000 ml of mixture,

Alcohol = 700 ml

Water = 300 ml

Let x ml of alcohol is mixed.

According to question

$\frac{300}{1000+x} \times 100 = 15$

$1000 + x = 2000 \Rightarrow x = 1000$ ml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**S20. Ans.(e)**

**Sol.** 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)

∴ From eqn. (i) and (ii)

$x = 37$ and $y = 39$

∴ Meenakhi's present age = 37 years

**S21. Ans.(a)**

**Sol.** Let the no. be a, b & c, where c is the highest

$\frac{a+b+c}{3\times3} = c - 8$

$a + b + c = 9c - 72$ .....(i)

Again, $a + b = 16$

$16 + c = 9c - 72$

$c = 11$

**S22. Ans.(c)**

**Sol.** $F = 4(C_1 + C_2 + C_3)$

$F + 6 = 2(C_1 + C_2 + C_3 + 18)$

$4(C_1 + C_2 + C_3) = 2(C_1 + C_2 + C_3) + 30$

$C_1 + C_2 + C_3 = 15$

$F = 4 \times 15 = 60$ years

**S23. Ans.(c)**

**Sol.** $\frac{3}{5} - \frac{2}{5} = 14000$

$\frac{1}{5} = 14000$

$\frac{3}{5} = 14000\times3 = 42000$

**S24. Ans.(c)**

**Sol.** Let 8 consecutive odd numbers are $x, x + 2, x + 4, x + 6, x + 8, x + 10, x + 12, x + 14$

So, $8x + 56 = 656$

$x = \frac{600}{8} = 75$

Let 4 consecutive even numbers are $y, y + 2, y + 4, y + 6$

So, $\frac{4y+12}{4} = 8$

$y = \frac{336}{4} = 84$

Now, $x + y + 4 = 75 + 84 + 4 = 163$

**S25. Ans.(c)**

**Sol.** Let the number be x and y

Then 6y – x = 71 and 7x + y = 62

Solving the equation

x = 7 , y = 13

**S26. Ans.(c)**

**Sol.** 8% of 20,000 = 1600

5% of 10,000 = 500

& 7% of 36,000 = 2,520

⇒ Remaining discount = 420

⇒ On 6000, 7% discount can be allowed.

**S27. Ans.(e)**

**Sol.**

| CP | SP | Marked Price |
|---|---|---|
| 535.71 | 750 | 937.5 |

Profit % without discount $= \frac{937.5-535.71}{535.71} \times 100$

≈ 75%

**S28. 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

**S29. 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

**S30. Ans.(d)**

**Sol.** B is $16\frac{2}{3}$% more efficient than A

$16\frac{2}{3}\% = \frac{100}{6}\% = \frac{1}{6}$

Let efficiency of A = 6x units/day

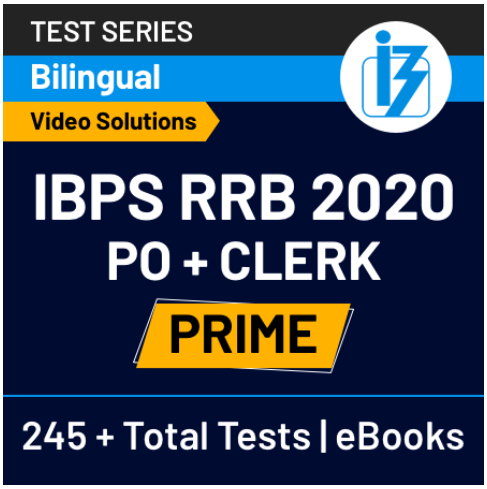
then efficiency of B = 7 x units/day

So total work = efficiency of A × time taken by A

= efficiency of B × time take by B

6x × 42 = 7x × time taken by B

time taken by B = 36 days.





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