## Quiz Date: 23rd June 2020

Directions (1-5): Find out the wrong number in the following number series.
Q1.14, 29, 41, 63, 65, 131, 133
(a) 63
(b) 131
(c) 29
(d) 41
(e) 133

Q2. 2478, $819,257,84,24,5$
(a) 257
(b) 24
(c) 5
(d) 819
(e) 1

Q3. 4, $\quad 6, \quad 12, \quad 30, \quad 90,315,1240$
(a) 315
(b) 90
(c) 6
(d) 12
(e) 1240

Q4. 289, 266, 285, 270, 281, 275, 277
(a) 266
(b) 275
(c) 277
(d) 281
(e) 285

Q5.7, 13, 49, 295, 2305, 23041
(a) 7
(b) 13
(c) 49
(d) 295
(e) 2305

Q6. Taps A, B and C are attached with a tank and velocity of water coming through them are 42 litre per hours, 56 litre per hours and 48 litre per hours, respectively. A and B are inlets and $C$ is outlet. If all the taps are opened simultaneously, tank is filled in 16 hours. What is the capacity of the tank?
(a) 2346 litres
(b) 1600 litres
(c) 800 litres
(d) 960 litres
(e) 2330 litres

Q7. A solution of sugar syrup has 15\% sugar. Another solution has 5\% sugar. How many litres of the second solution must be added to 20 litres of the first solution to make a solution of 10\% sugar?
(a) 10
(b) 5
(c) 15
(d) 20
(e) 25


Q8. Three friends Anita, Bindu and Champa divided Rs. 1105 among themselves in such a way that if Rs. 10, Rs. 20 and Rs. 15 are removed from the sum that Anita, Bindu and Champa received respectively, the share of the sum that they got will be in the ratio of $11: 18: 24$. How much did Champa received ?
(a) Rs. 495
(b) Rs. 510
(c) Rs. 480
(d) Rs. 375
(e) Rs. 445

Q9. Two horses started simultaneously towards each other and meet each other 3 hr 20 min later. The ratio of speed of faster horse to that of slower horse is $3: 1$. How much time will it take the slower horse to cover the whole distance if the slower arrived at the place of departure of the faster 5 hours later than the faster arrived at the point of departure of the slower after they meet ?
(a) 10 hours
(b) $40 / 3$ hours
(c) $44 / 3$ hours
(d) 16 hours
(e) 46/3 hours

Q10. Abhishek and Ayush start travelling in same direction at $8 \mathrm{~km} / \mathrm{hr}$ and $13 \mathrm{~km} / \mathrm{hr}$ respectively. After 4 hours, Abhishek doubled his speed and Ayush reduced his speed by 1 $\mathrm{km} / \mathrm{hr}$ and reached the destination together. How long the entire journey last?
(a) 9 hr
(b) 8 hr
(c) 4 hr
(d) 7 hr
(e) 6 hr

Q11. A starts a business with an initial investment of Rs 18000 . After 4 months, B enters into the partnership with an investment of Rs 24000 . Again after two months, C enters with an investment of Rs 30000. If C receives Rs 1845 in the profit at the end of the year, what is total annual profit?
(a) Rs 6027
(b) Rs 6327
(c) Rs 6527
(d) Rs 6080
(e) Rs 6800

Q12. If the simple interest on a certain sum of money for 15 months at $71 / 2 \%$ p.a. exceeds the simple interest on the same sum for 8 months at $121 / 2 \%$ p.a. by Rs 32.50 . The sum is
(a) Rs. 312
(b) Rs. 312.50
(c) Rs. 3120
(d) Rs. 3120.50
(e) None of these

Q13. In Arun's opinion his weight is greater than 65 kg but less than 72 kg . His brother does not agree with Arun and he thinks that Arun's weight is greater than 60 kg but less than 70 kg . His mother's view is that his weight cannot be greater than 68 kg . if all of them are correct in their estimation, what is the average of different probably weights of Arun?
(a) 69 kg
(b) 67 kg
(c) 68 kg
(d) Data inadequate
(e) None of these

Q14. How many numbers between 2000 and 3000 can be formed with the digits $0,1,2,3,4$, 5, 6, 7 (repetition of digits not allowed)?
(a) 42
(b) 210
(c) 336
(d) 420
(e) 120

Q15. Three groups of children contain 3 girls and 1 boy, 2 girls and 2 boys, and 1 girl and 2 boys respectively. One child is selected at random from each group. The probability that the three selected consist of 1 girl and 2 boys is
(a) $3 / 8$
(b) $1 / 5$
(c) $5 / 8$
(d) $3 / 5$
(e) None of these

## Solutions

S1. Ans.(d)
Sol.
The series is $\times 2+1, \times 1+2$ alternately
So, $29 \times 1+2=31 \neq 41$

S2. Ans.(a)
Sol.
The series is $\div 3-7, \div 3-6, \div 3-5$, .....
So, $819 \div 3-6=267 \neq 257$


S3. Ans.(e)
Sol.
The series is $\times 1.5, \times 2, \times 2.5, \times 3, \ldots .$.
So, $315 \times 4=1260 \neq 1240$
S4. Ans.(b)
Sol.
The series is $-23,+19,-15,+11,-7,+3, \ldots$.
So, $281-7=274 \neq 275$

S5. Ans.(d)
Sol.
$\mathrm{x} 2-1, \mathrm{x} 4-3, \mathrm{x} 6-5, \mathrm{x} 8-7, \mathrm{x} 10-9 \ldots$.
$49 \times 6-5=294-5=289$

S6. Ans.(c)
Sol. Capacity of tank $=42 \times 16+56 \times 16-48 \times 16$
$=800$ litres

S7. Ans.(d)
Sol.
By allegation,


So, required answer $=20$ litres.


## S8. Ans.(a)

Sol.
Let after removal, the sum of Anita $=11 \mathrm{x}$
Sum of Bindu $=18 \mathrm{x}$
Sum of Champa 24 x
ATQ,
$11 x+18 x+24 x=1105-(10+20+15)$

$=1060$
$\Rightarrow \mathrm{x}=20$
$\therefore$ Part of Champa $=480+15$
= 495

S9. Ans.(b)
Sol.
Let speed of faster horse $=3 x \mathrm{kmph}$
Speed of slower horse $=x \mathrm{kmph}$
Total distance between them $=(3 x+x) \times \frac{10}{3}$
$=\frac{40 x}{3} \mathrm{~km}$
Let faster horse takes $t$ hours to reach at place of departure of slower after they meet.
$\therefore$ time taken by slower horse to complete the whole distance between them
$=\left(\frac{10}{3}+5+t\right)$
$\Rightarrow x\left(\frac{3 t+25}{3}\right)=\frac{40 x}{3}$
$\Rightarrow t=5$ hours
$\therefore$ Total required time $=5+5+\frac{10}{3}$
$=\frac{40}{3}$ hours
$2^{\text {nd }}$ method :
Total distance between them
$=($ Distance covered by faster horse in
$\frac{10}{3} h+$ distance covered by slower horse in $\frac{10}{3} h$ )
$=3 x \times \frac{10}{3}+x \times \frac{10}{3}$
$=\frac{40 x}{3}$
$\therefore$ Required time $=\frac{40}{3}$ hours $\left(\because x=\right.$ slower $^{\prime}$ s speed $)$

S10. Ans.(a)
Sol.
Distance travelled by Abhishek in 4 hours $=8 \times 4=32 \mathrm{~km}$
Distance travelled by Ayush in 4 hours $=13 \times 4=52 \mathrm{~km}$
New speed of Abhishek $=8 \times 2=16 \mathrm{~km} / \mathrm{hr}$
New speed of Ayush $=13-1=12 \mathrm{~km} / \mathrm{hr}$
Relative speed $=16-12=4 \mathrm{~km} / \mathrm{hr}$
Distance between both $=52-32=20 \mathrm{~km}$
Required total time $=4+\frac{20}{4}$
$=4+5=9 \mathrm{hr}$


S11. Ans.(a)
Sol.
(A' profit) : (B's profit) : (C's profit)
$=(18,000 \times 12):(24,000 \times 8):(30,000 \times 6)$
$=18 \times 12: 24 \times 8: 30 \times 6$
$=18: 16: 15$
$\therefore$ C's share in profit
$=\frac{15}{18+16+15} \times$ Total profit
$\Rightarrow$ total profit $=\frac{1845 \times 49}{15}=$ Rs. 6,027

S12. Ans.(c)
Sol.

Let the sum be Rs x. then
$\left(\mathrm{x} \times \frac{15}{2} \times \frac{1}{100} \times \frac{15}{12}\right)-\left(\mathrm{x} \times \frac{25}{2} \times \frac{1}{100} \times \frac{8}{12}\right)=\frac{65}{2}$
$\Rightarrow \frac{3 \mathrm{x}}{32}-\frac{\mathrm{x}}{12}=\frac{65}{2}$
$\Rightarrow 9 \mathrm{x}-8 \mathrm{x}=3120$
$\Rightarrow \mathrm{x}=3120$
Sum = Rs. 3120

S13. Ans.(b)
Sol.
Required average age $=\frac{66+67+68}{3}$

$$
\begin{aligned}
& =\frac{201}{3} \\
& =67 \text { years }
\end{aligned}
$$

S14. Ans.(b)
Sol. Total required numbers between 2000 and 3000
$=1 \times 7 \times 6 \times 5$
(For eg. 2035, 2345)
$=210$

S15. Ans.(a)
Sol.
Group $1 \rightarrow 3$ G, 1B
Group $2 \rightarrow 2$ G, 2B
Group $3 \rightarrow 1$, 2B
Girl and Boy and Boy or Boy and Girl and Boy


Boy and Boy and Girl
$=\left(\frac{3}{4}\right) \times\left(\frac{2}{4}\right) \times\left(\frac{2}{3}\right)+\left(\frac{1}{4}\right) \times\left(\frac{2}{4}\right) \times\left(\frac{2}{3}\right)+\left(\frac{1}{4}\right) \times\left(\frac{2}{4}\right) \times\left(\frac{1}{3}\right)$
$=\frac{18}{48}=\frac{3}{8}$

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