Quiz Date: 13 ${ }^{\text {th }}$ September 2020
Direction (1-5): What will come in the place of question mark (?) in following number series.
Q1. 24, 1354, 2081, 2421, ?, 2564
(a) 2542
(b) 2540
(c) 2548
(d) 2556
(e) 2560

Q2. 56, 8, 48, 9.6, ?, 12.8
(a) 38.6
(b) 38.4
(c) 38.2
(d) 38.8
(e) 39.6

Q3. 16, 256, 2048, 8192, 16384, ?
(a) 16396
(b) 16384
(c) 16380
(d) 16388
(e) 16390

Q4. 96, $52, \quad 84, \quad 218, \quad 773, \quad$ ?
(a) 3496.5
(b) 3486.5
(c) 3490.5
(d) 3486.5
(e) 3488.5

Q5. 1727, 998, 509, 212, ?, 2
(a) 59
(b) 63
(c) 67
(d) 69
(e) 73

Directions (6-10): Given pie-chart shows the percentage distribution of runs scored by six Indian batsmen against England in a test match and the total runs scored by India is the total runs scored by only these six Indian batsmen.


Q6. If England scored 372 runs and lost by 28 runs then find the runs scored by Rohit is how much less than the runs scored by Pujara?
(a) 40
(b) 20
(c) 24
(d) 12
(e) 16

Q7. Find the ratio between runs scored by Dhawan to that of Rahane?
(a) $16: 13$
(b) $15: 16$
(c) $16: 17$
(d) $16: 15$
(e) $14: 13$


Q8. If India makes 325 runs and loss by 13 runs then runs scored by Kohli is what percent of the runs scored by England.
(a) $18 \frac{3}{13} \%$
(b) $14 \frac{1}{13} \%$
(c) $16 \frac{3}{13} \%$
(d) $23 \frac{3}{11} \%$
(e) $19 \frac{3}{13} \%$

Q9. If India wins by same runs which are scored by Pujara then find minimum runs scored by England.
(a) 166
(b) 83
(c) 243
(d) Cannot be determined
(e) None of these

Q10. Find the difference between runs scored by Rahane and Vijay together to the runs scored by Dhawan and Kohli together if India scored 600 runs.
(a) 15
(b) 3
(c) 9
(d) 6
(e) 12

Directions (11-15): In each question two equations numbered (I) and (II) are given. Solve both the equations and mark appropriate answer.
Q11. I. $6 \mathrm{x}^{2}-31 \mathrm{x}+40=0$
II. $2 y^{2}-13 y+21=0$
(a) $x<y$
(b) No relation can be established between $x$ and $y$
(c) $x \leq y$
(d) $x>y$
(e) $x \geq y$

Q12. I. $(x-4)^{2}=81$
II. $2 y^{2}+17 y+36=0$
(a) $x \geq y$
(b) $x \leq y$
(c) $x>y$
(d) $x<y$
(e) No relation can be established between $x$ and $y$

Q13. I. $\frac{99}{x^{2}}+\frac{49}{x}+6=0$
II. $12 \mathrm{y}^{2}+71 \mathrm{y}+99=0$
(a) $x>y$
(b) $x \geq y$
(c) $x<y$
(d) $x \leq y$
(e) No relation can be established between $x$ and $y$

Q14. I. $x^{2}+15 x+56=0$
II. $2 y^{2}+26 y+84=0$
(a) $y<x$
(b) $y \leq x$
(c) No relation can be established between $x$ and $y$
(d) $y>x$
(e) $y \geq x$

Q15. I. $x^{2}=529$
II. $y^{3}=10648$
(a) $x \geq y$
(b) $x \leq y$
(c) $x>y$
(d) No relation can be established between $x$ and $y$
(e) $\mathrm{x}<\mathrm{y}$

## Solutions

S1. Ans(a)
Sol.
Pattern of series -
$24+\left(11^{3}-1\right)=1354$
$1354+\left(9^{3}-2\right)=2081$
$2081+\left(7^{3}-3\right)=2421$
$?=2421+\left(5^{3}-4\right)=2542$
$2542+\left(3^{3}-5\right)=2564$
S2. Ans(b)
Sol.
Pattern of series -
$56 \div 7=8$
$8 \times 6=48$
$48 \div 5=9.6$
? $=9.6 \times 4=38.4$
$38.4 \div 3=12.8$
S3. Ans(b)
Sol.
Pattern of series -
$16 \times 16=256$
$256 \times 8=2048$
$2048 \times 4=8192$
$8192 \times 2=16384$
? = $16384 \times 1=16384$

S4. Ans(c)
Sol.
Pattern of series -
$96 \times 0.5+4=52$
$52 \times 1.5+6=84$
$84 \times 2.5+8=218$
$218 \times 3.5+10=773$
$?=773 \times 4.5+12=3490.5$

S5. Ans(a)
Sol.

Pattern of series -
$\left(12^{3}-1\right)=1727$
$\left(10^{3}-2\right)=998$
$\left(8^{3}-3\right)=509$
$\left(6^{3}-4\right)=212$
? $=\left(4^{3}-5\right)=59$
$\left(2^{3}-6\right)=2$
S6. Ans.(b)
Sol.
England's score $=372$
So, India's score $=372+28=400$
Required difference $=\frac{(17-12)}{100} \times 400=20$
S7. Ans.(d)
Sol.
Let total runs scored by India $=100 \mathrm{x}$
Runs scored by Dhawan $=\frac{16 \times 100 \mathrm{x}}{100}=16 \mathrm{x}$
Runs scored by Rahane $=\frac{15 \times 100 \mathrm{x}}{100}=15 \mathrm{x}$
Required Ratio = $16: 15$
S8. Ans.(e)
Sol.
England's score $=325+13=338$
Kohli's score $=\frac{20}{100} \times 325=65$
Required $\%=\frac{65}{338} \times 100=19 \frac{3}{13} \%$


S9. Ans.(b)
Sol.
If India's score $=100 x$
So Pujara scored $=\frac{100 x \times 17}{100}=17 x$
For minimum runs $=x$ should be 1
So England's score $=100-17=83$
S10. Ans.(d)
Sol.
Total score $=600$
Runs scored by Rahane and Vijay together $=\frac{(15+20)}{100} \times 600=210$
Runs scored by Dhawan and Kohli together $=\frac{(16+20)}{100} \times 600=216$
Required Difference $=216-210=6$
S11. Ans.(a)

Sol.
I. $\quad 6 x^{2}-31 x+40=0$
$\Rightarrow 6 \mathrm{x}^{2}-15 \mathrm{x}-16 \mathrm{x}+40=0$
$\Rightarrow 3 \mathrm{x}(2 \mathrm{x}-5)-8(2 \mathrm{x}-5)=0$
$\Rightarrow(3 x-8)(2 x-5)=0$
$\Rightarrow \mathrm{x}=\frac{8}{3}$ or $\frac{5}{2}$
II. $\quad 2 y^{2}-13 y+21=0$
$\Rightarrow 2 y^{2}-6 y-7 y+21=0$
$\Rightarrow 2 y(y-3)-7(y-3)=0$
$\Rightarrow y=3$ or $7 / 2$
$y>x$
S12. Ans.(e)
Sol.
I. $\quad(x-4)^{2}=81$
$\Rightarrow \mathrm{x}-4= \pm 9$
$\Rightarrow \mathrm{x}-4=+9, \mathrm{x}-4=-9$
$\Rightarrow \mathrm{x}=13, \quad \mathrm{x}=-5$
II. $2 y^{2}+17 y+36=0$
$\Rightarrow 2 y^{2}+8 y+9 y+36=0$
$\Rightarrow 2 y(y+4)+9(y+4)=0$
$\Rightarrow y=-4$ or $\frac{-9}{2}$
No relation can be established between x and y .
S13. Ans.(d)
Sol.
I. $\frac{99}{x^{2}}+\frac{49}{x}+6=0$

$\Rightarrow$ multiply by $\mathrm{x}^{2}$
$\Rightarrow 6 \mathrm{x}^{2}+49 \mathrm{x}+99=0$
$\Rightarrow 6 \mathrm{x}^{2}+27 \mathrm{x}+22 \mathrm{x}+99=0$
$\Rightarrow 3 \mathrm{x}(2 \mathrm{x}+9)+11(2 \mathrm{x}+9)=0$
$\Rightarrow \mathrm{x}=\frac{-9}{2}$ or $\frac{-11}{3}$
II. $\quad 12 \mathrm{y}^{2}+71 \mathrm{y}+99=0$

$$
\Rightarrow 12 y^{2}+27 y+44 y+99=0
$$

$$
\Rightarrow 3 y(4 y+9)+11(4 y+9)=0
$$

$\Rightarrow y=\frac{-9}{4}$ or $\frac{-11}{3}$
$y \geq x$
S14. Ans.(e)
Sol.
I. $x^{2}+15 x+56=0$
$\Rightarrow \mathrm{x}^{2}+7 \mathrm{x}+8 \mathrm{x}+56=0$
$\Rightarrow x(x+7)+8(x+7)=0$
$\Rightarrow \mathrm{x}=-7$ or -8
II. $2 y^{2}+26 y+84=0$

$$
\Rightarrow y^{2}+13 y+42=0
$$

$$
\Rightarrow y^{2}+6 y+7 y+42=0
$$

$\Rightarrow y=-6$ or -7
$y \geq x$
S15. Ans.(d)
Sol.
I. $\quad x^{2}=529$
$\mathrm{x}= \pm 23$
II. $\quad y^{3}=10648$
$\Rightarrow y=22$
Relationship can't be established between x and y

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