Quiz Date: 5 ${ }^{\text {th }}$ June 2020

Q1. At present Meena is eight times her daughter age. 8 years hence from now, the ratio of the ages of Meena and her daughter will be $10: 3$, respectively. What is Meena's present age ?
(a) 32 years
(b) 40 years
(c) 36 years
(d) 34 years
(e) 46 years

Q2. 7 years ago, the ages of $P$ and $Q$ were in the ratio $4: 5$ and 7 years hence, they will be in the ratio $5: 6$. The present age of $Q$ is :
(a) 56 years
(b) 63 years
(c) 70 years
(d) 77 years
(e) 87 years

Q3. The ages of Rahul and Parul are 40 years and 60 years, respectively. How many years before the ratio of their ages was $3: 5$ ?
(a) 15 years
(b) 20 years
(c) 37 years
(d) 10 years
(e) 16 years


Q4. Ruby's monthly income is three times Gayatri's monthly income. Gayatri's monthly income is fifteen percent more than Priya's monthly income. Priya's monthly income is Rs. 32,000. What is Ruby's Annual income?
(a) Rs. 11,04,000
(b) Rs. 13,24,800
(c) Rs. 38,800
(d) Rs. 54,600
(e) Rs. 12,34,800

Q5. Akash scored 73 marks in subject A. He scored $56 \%$ marks in subject B and x marks in subject C. Maximum marks in each subject were 150 . The overall percentage marks obtained by Akash in all the three subjects together were $54 \%$. How many marks did he score in subject C?
(a) 84
(b) 86
(c) 79
(d) 73
(e) 94

Q6. The expenses of all boys of an institute are partly constant and partly vary as the number of boys. The expenses were Rs. 10,000 for 150 boys and Rs. 8400 for 120 boys. What will be the expenses when there are 330 boys?
(a) 18,000
(b) 19,600
(c) 22,400
(d) 24,000
(e) 20,600

Q7. There are 5 consecutive odd numbers. If the difference between square of the average of first two odd number and that of last two odd numbers is 492 . What is the smallest odd number?
(a) 37
(b) 42
(c) 41
(d) 35
(e) 39


Q8. The ratio of two numbers is $1 \frac{1}{2}: 2 \frac{2}{3}$. If each of the number is increased by 15 , the ratio becomes $1 \frac{2}{3}: 2 \frac{1}{2}$, then find the bigger number.
(a) 27
(b) 36
(c) 48
(d) 64
(e) 44

Q9. The respective ratio between present age of Manoj and Wasim is $3: 11$. Wasim is 12 years younger than Rehana. Rehana's age after 7 years will be 85 years. What is the present age of Manoj's father who is 25 years older than Manoj?
(a) 43 years
(b) 67 years
(c) 45 years
(d) 69 years
(e) 71 years

Q10. In an examination out of 480 students, $85 \%$ of the girls and $70 \%$ of the boys passed. How many boys appeared in the examination, if total pass percentage was $75 \%$ ?
(a) 370
(b) 340
(c) 320
(d) 360
(e) 420

Q11. The average weight of a class of 33 students is 47 kg . If the weight of the teacher is included, then the average weight of the class increases by 1 kg . What is the weight of the teacher?
(a) 48
(b) 80
(c) 71
(d) 81
(e) 33

Q12. The average weight of 45 students in a class is 52 kg .5 of them whose average weight is 48 kg leave the class and other 5 students whose average weight is 54 kg join the class. What is the new average weight (in kg.) of the class?
(a) 52.6
(b) $52 \frac{2}{3}$
(c) $52 \frac{1}{3}$
(d) 54
(e) None of these


Q13. In a test, a candidate secured 336 marks out of maximum marks ' $x$ '. If the maximum marks ' $x$ ' had been converted into 400 marks, he would have secured 192 marks. What was the maximum marks of the test?
(a) 500
(b) 650
(c) 600
(d) 700
(e) 800

Q14. Instead of dividing Rs. 117 among $\mathrm{P}, \mathrm{Q}$ and R in the ratio ${ }^{\frac{1}{2}: \frac{1}{3}: \frac{1}{4^{\prime}} \text { it was divided in the }}$ ratio $2: 3: 4$ by mistake. Who gained in the transaction ?
(a) only P
(b) only Q
(c) only R
(d) Both Q and R
(e) None of these

Q15. a, b, c, $d$ and e are 5 consecutive even numbers. If the sum of ' $a$ ' and ' $d$ ' is 162 , then what is the sum of all the numbers?
(a) 400
(b) 380
(c) 420
(d) 410
(e) 408

## Solutions

S1. Ans.(a)
Sol.
Let present age of Meena $=x$ years
$\therefore$ Daughter's present age $=\frac{x}{8}$ years
ATQ,
$\frac{x+8}{\frac{x}{8}+8}=\frac{10}{3}$
$\Rightarrow 24 \mathrm{x}+192=10 \mathrm{x}+640$
$\Rightarrow \mathrm{x}=\frac{448}{14}$
$\Rightarrow \mathrm{x}=32$ years

S2. Ans.(d)
Sol.
Let present age of $P=x$ years
Present age of $Q=y$ years
$\therefore \frac{x-7}{y-7}=\frac{4}{5}$ and $\frac{x+7}{y+7}=\frac{5}{6}$
$\Rightarrow 5 \mathrm{x}-35=4 \mathrm{y}-28$ and $6 \mathrm{x}+42=5 \mathrm{y}+35$
$\Rightarrow 5 \mathrm{x}-4 \mathrm{y}=7 \ldots$ (i)
and
$6 x-5 y=-7 \ldots$ (ii)
Solving (i) and (ii), we get
$y=77$ years

S3. Ans.(d)
Sol.

Let a year ago, the ratio of Rahul and
Parul's ages was 3:5.
$\frac{40-a}{60-a}=\frac{3}{5}$
$\Rightarrow 200-5 \mathrm{a}=180-3 \mathrm{a}$
$\Rightarrow \mathrm{a}=10$ years

S4. Ans.(b)
Sol.
Ruby's annual income
$=12 \times 3 \times \frac{115}{100} \times 32,000$
= Rs. $13,24,800$

S5. Ans.(b)
Sol.
Total marks obtained by Akash in all the three subjects together

$$
\begin{aligned}
& =\left(73+\frac{56}{100} \times 150+x\right) \\
& \Rightarrow x+157=\frac{54}{100} \times 450 \\
& \Rightarrow x=86
\end{aligned}
$$

S6. Ans.(b)
Sol.
Let constant expenses were Rs. $x$


Variable expenses = Rs. y per boy
$\therefore$ According to first condition,
$\Rightarrow \mathrm{x}+150 \mathrm{y}=10,000$
and according to $2^{\text {nd }}$ condition,
$x+120 y=8400$
$\therefore 30 \mathrm{y}=1600$
$\Rightarrow \mathrm{y}=\frac{160}{3}$ rupee
$\therefore \mathrm{x}=8400-160 \times 40=2000$
$\therefore$ Required expenses
$=2000+330 \times \frac{160}{3}$
$=19,600$

S7. Ans.(a)
Sol.

Let 5 consecutive odd numbers are
$\mathrm{x}-4, \mathrm{x}-2, \mathrm{x}, \mathrm{x}+2, \mathrm{x}+4$
ATQ,
$(x+3)^{2}-(x-3)^{2}=492$
$\Rightarrow 12 \mathrm{x}=492$
$\Rightarrow \mathrm{x}=41$
$\therefore$ smallest odd no. $=41-4$

$$
=37
$$



S8. Ans.(c)
Sol.
$\frac{x}{y}=\frac{9}{16}$
$\frac{x+15}{y+15}=\frac{2}{3}$
Solving equations, $y=48, x=27$


S9. Ans.(a)
Sol.
Let present ages of Manoj and Wasim
are $3 \mathrm{x} \& 11 \mathrm{x}$ years respectively.
ATQ,
$(11 \mathrm{x}+12)+7=85$
$\Rightarrow 11 \mathrm{x}=66$
$\Rightarrow \mathrm{x}=6$
$\therefore$ Present age of Manoj's father
$=18+25$
$=43$ years

S10. Ans.(c)
Sol.

Total number of students $=480$
Let the number of boys $=x$
Now according to question,
Total students passed $=70 \%$ of $\mathrm{x}+85 \%$
Of $(480-x)=360$
$\Rightarrow \frac{70 \times x}{100}+\frac{85 \times(480-x)}{100}=360$
$\Rightarrow 70 x-85 x+40800=36000$
$\Rightarrow 40800-36000=85 x-70 x$
$\Rightarrow 4800=15 x$
$\Rightarrow x=\frac{4800}{15}=320$
There are 320 boys who appeared for the examination.

S11. Ans.(d)
Sol.
Weight of teacher
$=34 \times 48-33 \times 47$
$=81 \mathrm{~kg}$


S12. Ans.(b)
Sol.
New average weight
$=\frac{45 \times 52-5 \times 48+5 \times 54}{45}$
$=\frac{2370}{45}$
$=\frac{158}{3}=52 \frac{2}{3} \mathrm{~kg}$

S13.Ans.(d)
Sol.
His $\%$ marks out of $400=\frac{192}{400} \times 100=48 \%$
$\therefore 48 \%$ of $x=336$
Or, $\mathrm{x}=700$

S14. Ans.(d)
Sol.
Differences of share of $P, Q$ and $R$ respectively in two cases
$\mathrm{P} \rightarrow \frac{2}{9} \times 117-\frac{6}{13} \times 117=-28$ (loss)
$\mathrm{Q} \rightarrow \frac{3}{9} \times 117-\frac{4}{13} \times 117=3$ (gain)
$\mathrm{R} \rightarrow \frac{4}{9} \times 117-\frac{3}{13} \times 117=25$ (gain)

S15. Ans.(d)
Sol.
$a=a, b=a+2, c=a+4$
$d=a+6$ and $e=a+8$
$\therefore a+d=a+a+6=162$
$a=\frac{162-6}{2}=78$
$\therefore$ Sum of all numbers
$=78+80+82+84+86=410$


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