Quiz Date: 29th March 2020

Q1. Panchhi's age 8 years ago is equal to the sum of present ages of her son and her daughter. 5 years hence, the ratio between her daughter's age and her son's age will be 7 : 6 respectively. Panchhi's husband is 7 years older than her. Her husband's present age is thrice the present age of his son. What is her daughter's present age?
(a) 23 years
(b) 24 years
(c) 28 years
(d) 25 years
(e) 18 years

Q2. A motorboat went downstream for 28 km and immediately returned. It took the boat twice as long to make the return trip than the downstream trip. If the speed of the river flow were twice as high, the whole trip downstream and back would take 672 minutes. Find the speed of the boat in still water and the speed of the river flow.
(a) 9 km/hr, 3 km/hr
(b) 9 km/hr, 6 km/hr
(c) 8 km/hr, 2 km/hr
(d) 12 km/hr, 3 km/hr
(e) None of these

Q3. The simple interest (p.a.) accrued on an amount of Rs 17,000 at the end of four years is Rs 6,800. What would be the compound interest (compounded annually) accrued on the same amount at the same rate in two years?
(a) Cannot be determined
(b) Other than those given as option
(c) Rs 3570
(d) Rs 3260
(e) Rs 3980

Q4. A person C can complete 21% of work in 10 days while working with 233⅓% of his efficiency. B is $11\frac{1}{9}$% more efficient than C. A, while working with his half efficiency can complete the work in half time as compared to time taken by B. Find the time taken by A & B together to complete the 50% of whole work.
(a) 15 days
(b) 10 days
(c) 20 days
(d) 25 days
(e) 22 days

Q5. A bag contains 4 red and 3 black balls. A second bag contains 2 red and 4 black balls. One bag is selected at random. From the selected bag, one ball is drawn. Find the probability that the ball drawn is red.

(a) $\frac{23}{42}$

(b) $\frac{19}{42}$

(c) $\frac{7}{32}$

(d) $\frac{16}{39}$

(e) None of these

Direction (6-10): What will come in place of '?' in the following questions.

Q6. $\frac{3}{8}$ of $168 \times 15 \div 5 + ? = 549 \div 9 + 235$

(a) 163

(b) 199

(c) 107

(d) 126

(e) 173

Q7. $11 \times 3^4 + \frac{1}{?}$ of $385 - 1698 \div 6 = 685$

(a) 5

(b) 4

(c) 8

(d) 6

(e) 9

Q8. $(?)^2 - 364 \div 7 \times 6 + 289 = 26 \times (121 + 72)$

(a) 95

(b) 89

(c) 83

(d) 71

(e) 61

Q9. $\frac{1}{(4913)^{\frac{1}{3}}}$ of $1411 + 583 \times ? = 16\frac{2}{3}\% \ of \ 14490$

(a) 5

(b) 6

(c) 7

(d) 8

(e) 4

Q10. $14\frac{2}{7}\%$ of $27048 \div \sqrt{576} = (?)^{\frac{1}{2}}$
(a) 25571
(b) 25921
(c) 25252
(d) 25481
(e) 25371

Directions (11-15): What will come in place of question mark (?) in the following number series?
Q11. 23   50   108   232   492   ?
(a) 1028
(b) 1024
(c) 1020
(d) 1032
(e) None of these

Q12. 60   60   48   28.8   11.52   ?
(a) 3.072
(b) 3.142
(c) 3.224
(d) 3.912
(e) None of these

Q13. 441   441   147   735   105   ?
(a) 935
(b) 945
(c) 735
(d) 525
(e) None of these

Q14. 5   6   16   ?   244
(a) 52
(b) 38
(c) 57
(d) 51
(e) None of these

Q15. 23   11.5   17.2   43.125   ?
(a) 150.9375
(b) 90.5625
(c) 145.5625
(d) 120.9325
(e) None of these

Solutions

S1. Ans.(a)
Sol. Let P = Panchhi's present age
S = Son's age
D = Daughter's age
ATQ,
P – 8 = S + D …(i)
& P + 7 = 3S
$\Rightarrow$ P = 3S – 7
$\Rightarrow$ 2S – D = 15 …(ii)
now, $\dfrac{D + 5}{S + 5} = \dfrac{7}{6}$
$\Rightarrow$ 7S – 6D = – 5 …(iii)
Solving equations (ii) & (iii) we get,
D = 23 years.

S2. Ans.(a)
Sol.
Let speed boat =x km/hr
Let speed of stream = y km/hr
Condition I
$$2 \times \frac{28}{x + y} = \frac{28}{x - y} \Rightarrow \frac{x}{y} = \frac{3}{1}$$

$$x = 3y$$

Condition II
$$\frac{28}{(3y + 2y)} + \frac{28}{(3y - 2y)} = \frac{672}{60}$$

$$\Rightarrow \frac{28}{5y} + \frac{28}{y} = \frac{672}{60}$$
$$\Rightarrow \frac{28 + 28 \times 5}{5y} = \frac{672}{60} \Rightarrow y = 3 \text{ km/hr}$$

∴ Speed of boat in still water = 9 km/hr
And speed of stream=3km/hr

S3. Ans.(c)
Sol.
Let the rate of interest be r percent per annum

$$\therefore 6800 = \frac{17000 \times r \times 4}{100}$$

$$\Rightarrow r = 10\%$$

$$\therefore \text{ C. I.} = 17000\left[\left(1+\frac{10}{100}\right)^2 - 1\right] = 17000\left(\frac{121-100}{100}\right) = \text{Rs. } 3,570$$

S4. Ans.(b)
Sol.
Let the efficiency of C is C units/days and total work be 100a Units
ATQ,

$\frac{7}{3}$ c × 10 = 21a

$\left[233\frac{1}{3}\% = \frac{7}{3}\right]$

C = $\frac{9a}{10}$ Units /day

Also, B is $11\frac{1}{9}$ % more efficient than C means

B = $\frac{10}{9}$ of C

B = $\frac{10}{9} \times \frac{9a}{10}$ Units/day

= a Units / day

A which while working with half efficiency total half time.

∴ A : B = 4 : 1 [efficiency ratio]
Efficiency of A = 4a
Efficiency of A + B together is 4a + a = 5a/day

Time take to complete 50 a Units = $\frac{50a}{5a}$ = 10 days

S5. Ans (b)

Sol. $\frac{1}{2} \times \frac{4}{7} + \frac{1}{2} \times \frac{2}{6}$

$= \frac{4}{14} + \frac{2}{12} = \frac{19}{42}$

S6. Ans.(c)

Sol. $\frac{63 \times 15}{5} + ? = 61 + 235$

$? = 296 - 189 = 107$

S7. Ans.(a)

Sol. $11 \times 81 + \frac{1}{?}$ of $385 - 283 = 685$

$\frac{1}{?}$ of $385 = 685 + 283 - 891$

$? = \frac{385}{77} = 5$

S8. Ans.(d)
Sol. $(?)^2 - 312 + 289 = 5018$
$(?)^2 = 5041$
$? = 71$

S9. Ans.(e)
Sol. $\frac{1411}{17} + 583 \times ? = 2415$
$? = \frac{2332}{583} = 4$

S10. Ans.(b)
Sol. $\frac{3864}{24} = (?)^{\frac{1}{2}}$
$161 = (?)^{\frac{1}{2}}$
$? = (161)^2 = 25921$

S11. Ans. (a)
Sol.
Pattern is
$23 \times 2 + 4 = 50$
$50 \times 2 + 8 = 108$
$108 \times 2 + 16 = 232$
$232 \times 2 + 28 = 492$
$492 \times 2 + 44 = 1028$

Also, addition of numbers is in pattern
$4 + 4 \times 1 = 8$
$8 + 4 \times 2 = 16$
$16 + 4 \times 3 = 28$
$28 + 4 \times 4 = 44$

S12. Ans. (e)
Sol.   pattern is
$60 \times 1.0 = 60$

$60 \times 0.8 = 48$
$48 \times 0.6 = 28.8$
$28.8 \times 0.4 = 11.52$
$11.52 \times 0.2 = 2.304$

S13. Ans. (b)
Sol. The series is
$\times\ 1,\ \div\ 3,\ \times\ 5,\ \div\ 7,\ \times\ 9$
$\quad\quad 105 \times 9 = 945$

S14. Ans. (c)
Sol. The series is
$\quad\quad \times 1 + 1^2,\ \times 2 + 2^2,\ \times\ 3\ + 3^2,\ \times 4\ +\ 4^2$
$16 \times 3 + 3^2 = 57$

S15. Ans. (a)
Sol. The series is
$\times 0.5,\ \times 1.5,\ \times 2.5,\ \times 3.5$
$\quad\quad 43.125 \times 3.5 = 150.9375$

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