Quiz Date: 8th July 2020

Q1. 18 Men can complete a project in 30 days and 16 women can complete the same project in 36 days. 15 men start working and after 9 days they are replaced by 18 women. In how many days will 18 women complete the remaining work?
(a) 20
(b) 30
(c) 26
(d) 28
(e) 24

Q2. Amit and Sujit together can complete an assignment of data entry in 5 days. Sujit's speed is 80% of Amit's speed and the total key are 5,76,000. What is Amit's speed in key depressions per hour if they work for 8 hours a day?
(a) 4800
(b) 6400
(c) 8000
(d) 7200
(e) 8400

Q3. A and B together can complete a piece of work in $10\frac{2}{7}$ days while B and C together can complete the same work in $13\frac{1}{3}$ days. B is 25% more efficient than C. In how many days will A and C together complete the same work?
(a) $11\frac{1}{4}$
(b) $12\frac{1}{4}$
(c) $11\frac{1}{3}$
(d) $12\frac{1}{3}$
(e) $14\frac{1}{4}$

Q4. There are two taps to fill a tank and a third to empty it. When the third tap is closed, they can fill the tank in 10 min and 12 min, respectively. If all the three taps be opened, the tank is filled in 15 min. If the first two taps are closed, in approximately what time can the third tap empty the when it is full?
(a) 8 min and 34 second
(b) 9 min and 32 second
(c) 7 min
(d) 6 min
(e)12 min

Q5. C is twice as efficient as A. B takes thrice as many days as C. A takes 12 days to finish the work alone. If they work in pairs (i.e., AB, BC, CA) starting with AB on the first day, BC on the second day and AC on the third day and so on, then how many days are required to finish the work?

(a) $6\frac{1}{5}$ days

(b) 4.5 days

(c) $5\frac{1}{9}$ days

(d) 8 days

(e) 4 days

Q6. There are two auto closed pipes A and B which get closed if there is any disturbance can fill a tank in 20 and 30 hrs. respectively. Both the pipes are opened to fill the tank but when the tank is 1/3 rd full, a leak develops in the tank which results in closing of both pipes. Through the leak one-third water supplied by both the pipes goes out & after it the leak was get closed by some means and both filling pipes again start filling the tank. The total time taken to fill the tank is

(a) 12 hr
(b) 16 hr
(c) 14 hr
(d) 18 hr
(e) 20 hr.

Q7. A certain number of people were supposed to complete a work in 24 days. The work, however, took 32 days, since 9 people were absent throughout. How many people were supposed to be working originally?

(a) 32
(b) 27
(c) 36
(d) 30
(e) 28

Q8. If 600 men dig a 5.5 m wide, 4 m deep and 405 m long canal in half an hour, then how long a canal will 2500 men working for 6 hrs, dig if it is 10 m wide and 8 m deep?

(a) 6452 m

(b) $5568\frac{3}{4}$ m

(c) $2694\frac{1}{3}$ m

(d) 4082 m

(e) None of these

Q9. A tank of 3600 cu m capacity is being filled with water. The delivery of the pump discharging the tank is 20% more than the delivery of the pump filling the same tank. As a result, twelve minutes more time is needed to fill the tank than to discharge it. Determine the rate of delivery of the pump filling the tank.

(a) 40 m^3/min

(b) 50 m^3/min

(c) 60 m^3/min

(d) 80 m^3/min

(e) 58 m^3/min

Q10. 24 workers working 13 hours daily make a wall of dimensions 224 m × 16 m × 52 m in 32 days. In how many days will 36 workers working 18 hours daily make a wall of dimensions 432 m × 21 m × 64 m ?

(a) 58 days

(b) 42 days

(c) 48 days

(d) 60 days

(e) 62 days

Direction (11 – 13): Two series (I & II) are given. In (I) series a number given wrong, while in series (II) given blank with a (?) mark. Series (ii) follow the same pattern which series (I) follow. You have to determine the wrong number of (I) series and what will come in the place of (?) mark in (II) series.

Q11. (I) 16, 44, 172, 856, 5134, 35920

(ii) 12, _, _, _, _, ?

(a) 5134 & 25844

(b) 5134 & 25840

(c) 35920 & 25840

(d) 44 & 35920

(e) 856 & 35920

Q12. (I) 15, 70, 122, 182, 251, 330, 420
(II) 7.5, __, __, ___, ___, ?, 402.5
(a) 15 & 310.5
(b) 420 & 312.5
(c) 70 & 312.5
(d) 15 & 312.5
(e) 15 & 316.5

Q13. (I) 9.8, 12, 16, 23.6, 36.6, 59.8
(II) 12.8, __, __, ?, 39.6, 59.8
(a) 59.8 & 24.6
(b) 12 & 26.6
(c) 59.8 & 28.6
(d) 59.8 & 26.6
(e) 36.6 & 39.6

Direction (14-15): There are three series given in a question, you have to find value of x, y and z in each question and then establish relation among them.

Q14. 461, 473, 493, (x), 621, 753
1320, 990, 720, (y), 336, 210
(z), 508, 526, 626, 920, 2130
(a) x = y = z
(b) x> y > z
(c) x> y = z
(d) x = y > z
(e) x< z < y

Q15. 112, 176, 51, (x), -76, 436
55, 165, (y), 2310, 10395, 51975
616, 526, 454, 398, (z), 326
(a) x = y = z
(b) x> y > z
(c) x> y = z
(d) x = y > z
(e) x< z < y

Solutions

S1. Ans.(e)
Sol.

One minute work of 1 man $= \frac{1}{18\times30}$

$\therefore$ One minute work of 15 men $= \frac{15}{18\times30}$

$= \frac{1}{36}$

and one minute work of 18 women

$= \frac{18}{16\times36} = \frac{1}{32}$

Let required time is x days

$\therefore \frac{9}{36} + \frac{x}{32} = 1$

$\Rightarrow$ x = 24 days

S2. Ans.(c)
Sol.

Let Amit's speed = x depressions per hr.

$\therefore$ Sujit's speed = 0.8x depressions per hr.

ATQ,

$(x + 0.8x) \times 8 \times 5 = 5,76,000$

$\Rightarrow$ x = 8000 depressions per hour

S3. Ans.(a)
Sol.

One day work of A and B together

$= \frac{7}{72}$

i.e. $\frac{1}{A} + \frac{1}{B} = \frac{7}{72}$ ... (i)

and one day work of B and C together

$= \frac{3}{40}$

i.e. $\frac{1}{B} + \frac{1}{C} = \frac{3}{40}$ ... (ii)

But time taken by C = 1.25 × time taken by B

i.e. $\frac{1}{B} + \frac{1}{C} = \frac{1.25}{C} + \frac{1}{C}$

$= \frac{2.25}{C}$ ... (iii)

Solving eq. (i), (ii) and (iii) we get,
Time taken by A to complete the whole work alone = 18 days
and that by B = 24 days
and by C = 30 days

$\therefore$ Required answer $= \frac{18\times30}{48}$

$= 11\frac{1}{4}$ days

S4. Ans.(a)
Sol.
One minute work of third tap

$= \left(\frac{1}{10}+\frac{1}{12}\right)-\frac{1}{15}$

$= \frac{7}{60}$

$\therefore$ time taken by third tap to empty the filled tank

$= \frac{60}{7}$ min or 8 min 34 sec.

S5. Ans.(c)
Sol.
Time taken by A = 12 days

Time taken by B $= 3\times\frac{12}{2}$

$= 18$ days

Time taken by C $= \frac{12}{2}$

$= 6$ days

One day work of pair AB

$= \frac{1}{12}+\frac{1}{18}$

$= \frac{5}{36}$

One day work of pair BC

$= \frac{1}{18}+\frac{1}{6}$

$= \frac{2}{9}$

One day work of pair CA

$= \frac{1}{6}+\frac{1}{12}$

$= \frac{1}{4}$

∴ ATQ,

First three days work $= \frac{5}{36} + \frac{2}{9} + \frac{1}{4}$

$= \frac{11}{18}$

Next two days work (by AB and BC together)

$= \frac{5}{36} + \frac{2}{9}$

$= \frac{13}{36}$

Remaining work after 5 days

$= 1 - \left(\frac{11}{18} + \frac{13}{36}\right)$

$= \frac{1}{36}$

∴ Required time $= 3 + 2 + \frac{4}{36}$

$= 5\frac{1}{9}$ days

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S6. Ans.(b)

Sol.

Time taken by both pipes A and B to fill 1/3 rd of the tank

$= \frac{1}{3} \times \left(\frac{20 \times 30}{50}\right) = 4$ hrs.

∴ Total time to fill the tank

$= 4 + \frac{(20 \times 30)}{50}$

= 16 hrs.

S7. Ans.(c)

Sol.

Let x people were supposed to work

∴ $(x - 9) \times 32 = x \times 24$

$\Rightarrow 8x = 9 \times 32$

$\Rightarrow x = 36$

S8. Ans.(b)
Sol.
Let required length is x metres.

$$\frac{600\times\frac{1}{2}}{(405\times5.5\times4)}=\frac{2500\times6}{10\times8\times x}$$

$$\Rightarrow x=\frac{405\times55}{4}$$

$$=5568\frac{3}{4}\text{m}$$

S9. Ans.(b)
Sol. 20% = 1/5
∴ Efficiency of filling pump is 5 & efficiency of discharging pump is 6.
Difference of time is 12 min.
∴ Time in which pump can fill = 6 × 12 = 72 min.
∴ Rate of delivery of pump filling the tank $=\frac{3600}{72}=50\ m^3/\text{min.}$

S10. Ans.(c)
Sol.

$$\frac{24\times13\times32}{224\times16\times52}=\frac{36\times18\times x}{432\times21\times64}\quad(x=\text{no. of days})$$

$\Rightarrow x = 48$ days
Concept —

$$\frac{m_1\times d_1\times h_1}{w_1}=\frac{m_2\times d_2\times h_2}{w_2}$$

S11. Ans(b)
Sol. **(i)** Wrong number = 5134
Pattern of series—
16 × 3 – 4 = 44
44 × 4 – 4 = 172
172 × 5 – 4 = 856
856 × 6 – 4 = 5132
5132 × 7 – 4 = 35920
So, should be 5132 come in the place of 5134.
(ii) 12 × 3 – 4 = 32
32 × 4 – 4 = 124
124 × 5 – 4 = 616
616 × 6 – 4 = 3692
3692 × 7 – 4 = 25840
So, should be 25840 come in the place of (?) mark.

S12. Ans(d)

Sol. **(i)** Wrong number = 15
Pattern of series—

25 70 122 182 251 330 420
+45 +52 +60 +69 +79 +90
+7 +8 +9 +10 +11

So, should be 25 come in the place of 15.
(ii)

7.5 52.5 104.5 164.5 233.5 ?=312.5 402.5
+45 +52 +60 +69 +79 +90

So, should be 312.5 come in the place of (?) mark.

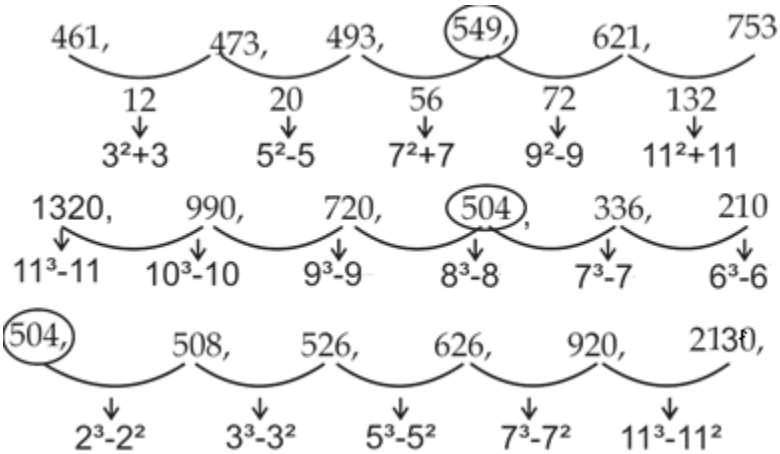
S13. Ans(d)
Sol. **(i)** Wrong number = 59.8
Pattern of series—

9.8 12 16 23.6 36.6 56.8
+2.2 +4 +7.6 +13.0 +20.2
+1.8 +3.6 +5.4 +7.2

So, should be 56.8 come in the place of 59.8
(ii)

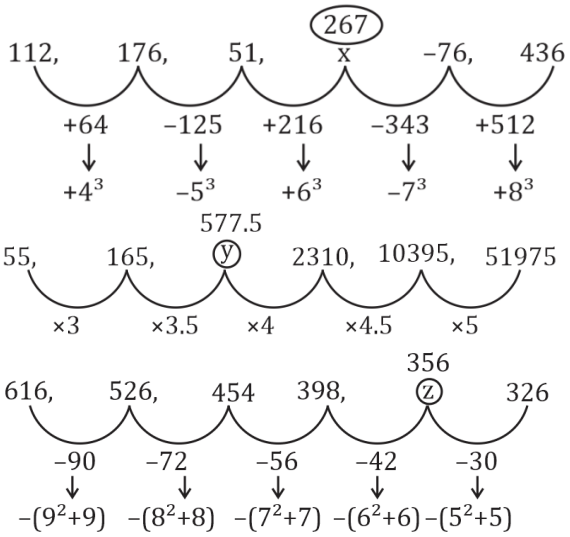
12.8 15 19 ?=26.6 39.6 59.8
+2.2 +4 +7.6 +13 +20.2
+1.8 +3.6 +5.4 +7.2

S14. Ans(c)
Sol.



So, x> y = z

S15. Ans.(e)
Sol.



So, $x < z < y$

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