

Solutions – Easy Test Set 2

1. (d) : For all numbers which are in the form $x^{1/x}$ and all x is greater than 3, the one with the greatest base is the smallest number.

2. (b) : $\frac{417}{4}$ gives a remainder of 1.

Last digit of 8^{417} is same as the last digit of $8^1 = 8$

3. (c) : Required value

$$\begin{aligned} &= \sqrt{l^2 + b^2 + h^2} \\ &= \sqrt{100 + 100 + 225} \\ &= \sqrt{425} = 5\sqrt{17} \text{ m} \end{aligned}$$

4. (d) : $\text{HCF} = \frac{\text{HCF of } (81, 27, 9)}{\text{LCM of } (16, 20, 40)} = \frac{9}{80}$

5. (a) : Highest power = $\frac{80}{9} = 8$

6. (d) : Let other number be x .

$$6 \times 84 = 12 \times x$$

$$x = 42$$

7. (a) : $\frac{100}{3}\% = \frac{x}{1000 - x} \times 100\%$

$$x = 250$$

Hence, he uses weight, $1000 - 250 = 750 \text{ g}$

8. (d) : $2^{189} - 2^{188} - 2^{188} = 2^{188} (2^2 - 2 - 2) = 0$

9. (a) : It is given that they were paid in the ratio 4 : 5 : 6 s for doing the job.

So, maximum amount would have been got by z and the minimum amount obtained by x .

$$\text{Amount obtained by } x = 4 \times \frac{T}{15}$$

where T is the total amount that all of them got together.

$$\text{Amount obtained by } z = 6 \times \frac{T}{15}$$

Now as per the problem,

$$= 6 \times \frac{T}{15} - 4 \times \frac{T}{15} = 300$$

$$= 2 \times \frac{T}{15} = 300$$

$$T = \text{Rs. } 2250$$

$$\text{Share of } x \text{ and } z = 6 \times \frac{T}{15} + 4 \times \frac{T}{15} = 10 \times \frac{T}{15} = \text{Rs. } 1500$$

10. (b) : We have to find last non zero digit by 4 so we will eliminate 0 in question so now it becomes $104^{925} = 4$ as $4^{\text{odd}} = 4$
11. (c) : Using the successive percentage change rule, we have
- $$-25 + x - \frac{25x}{100} = 20$$
- $$\frac{3x}{4} = 45$$
- $$x = 60\%$$
12. (c) : As per the problem:
Expenditure = 35 % of total income and so savings should be 65 % of the total income. Let the income of Rahul be I.
Then,
 $0.65 \times I = \text{Rs. } 52000$ or $I = \text{Rs. } 80000$
13. (a) : The new time is $\frac{1}{3}$ of the old time. If time becomes $\frac{1}{3}$, then new speed should have been $\frac{3}{1}$ of the initial speed.
Therefore $\frac{3S - S}{S} \times 100 = 200\%$,
14. (b) :
- $$\frac{A}{B} \times \frac{B}{C} \times \frac{C}{D} = \frac{A}{D}$$
- $$\Rightarrow \frac{5}{6} \times \frac{13}{14} \times \frac{9}{4} = \frac{195}{112}$$
15. (b) : In this problem, we are looking for the LCM of the divisors, that is, 3 and 4 or any of their multiple to which the desired remainder 2 can be added.
The smallest such number is 2. The others will be 14, 26, 38, 50, 62, 74, 86 and 98, that is there are 9 such numbers.
16. (a) : Let the present ages be X, Y, and Z years $(X - 5) : (Y - 5) : (Z - 5) = 2 : 4 : 5$ and taking pairwise values.
Substitute these values in the equation
- $$2a + 4a + 5a = x + y + z - 15$$
- $$11a = 165$$
- $$a = 15$$
- Five years ago ages were 30, 60, 75
Present ages are 35, 65, 80.
17. (c) : At 2:40 a.m., the hour hand is between 2 and 3 while the minute hand is at 8. Therefore, angle between the two hands at 2:40 a.m. $= \left(180 - 40 \times \frac{1}{2}\right) = 160^\circ$.
18. (d) : Y alone take $25 \times 4 = 100$ days
Total work LCM of (25&100) = 100
- $$Y \text{ alone} = \frac{100}{(4-1)} = \frac{100}{3}$$
19. (b) : Speed become $\frac{2}{3}$

So, time also become $\frac{2}{3} \times 60$

= 40 minutes

Hence, bus will stop for 20 minutes per hour.

20. (b) : If CP = 100, $MP = (100 + 44) \times \frac{100}{90} = 160$

If MP = 23200, $CP = 23200 \times \frac{100}{160} = 14500$

