# CAT Quantitative Aptitude Questions for Practice Set 3 - Solutions

## Difficulty Level - Easy

1. (c) : As per the problem:
Average score of 20 candidate = 25 marks
Total score of 20 candidate = 500 marks
Let the score of the topper be $x$. Then,
$\frac{(500 - x)}{19} = 23$
$500 - x = 437$
$x = 500 - 437 = 63$ marks

2. (a) : Let $G$ be $(X, Y)$ then $X = \frac{\{3+5+(-3)\}}{3} = \frac{5}{3}$
$Y = \frac{(7+5+2)}{3} = \frac{14}{3}$
$\Rightarrow G$ is $\left(\frac{5}{3}, \frac{14}{3}\right)$

3. (a) : Let, $s$ be the speed of stream.
So, $8 + s = 2\ (8 - s)$
$s = 8/3$ mph

4. (a) : unit digit of $4^3 = 4$

5. (b) : Total time required to empty it =
$\frac{1}{\left(\frac{1}{3} - \frac{1}{3.5}\right)}$ = 21 hours.

6. (c) : Discount = 3%
Price = 650.
S.P = .97 × 650 = 630.5

7. (a) : Since the winner gets 60 % of the total votes, the loser must have got 40% of the total votes.
Let the total number of votes be $T$. Then
$0.6T - 0.4T = 150$
$0.2T = 150 \quad T = 750$
We need to find the votes polled by the losing party, that is
40 % of 750 = 0.4 × 750 = 300 votes

8. (b) : $A$ = price of one apple
$B$ = price of one tomato
Given that:
$3A + 4B = 5A + 3B$
$B = 2A$
So, one tomato can be purchased in the same amount as that used to purchase two apples.
Therefore instead of 18 tomatoes one will be able to purchase 36 apples.

9. (d) : The three different Maths books can be arranged in 3! ways. Now there are four places created for the Chemistry books such that they are not together.
The four Chemistry books can be arranged in the available four places in 4! ways.

10. (c) : $x \times y = 0.8x\,(y + 4)$ or $y = 16\,y + 4 = 20$.

Old price = $\frac{10}{y} = \frac{10}{16}$ = Rs. 0.625/sugar

New price = $\frac{10}{(y + 4)}$ = Rs. 0.5/sugar

11. (a) : Two digit numbers where sum is 10 are 19, 28, 37, 46, 55, 64, 73, 82 and 91. Out of the given number only 37 + 36 = 73. 37 is the original number and 73 is the number obtained by reversing the digits.

12. (b) : Unit digit will be 1. For the second last digit we will multiply the last digit of power and the second last digit of the number = 4 × 4 = 6.
Hence the last two digits are 61.

13. (c) : Let $X$ & $Y$ be their ages at the time of marriage.
$X - Y = 8$ ..... (1)
$(X - 8) = 2\,(Y - 8)$ ..... (2)

Solve to get $X = 24$, $Y = 16$.

14. (a) : As given $\frac{p - 3}{q} = -1 \Rightarrow p + q = 3$ ..... (1)

Also $\frac{p}{q + 2} = \frac{1}{4} \Rightarrow 4p - q = 2$ ..... (2)

15. (c) : As per the problem:
Initial amount of rum = 30 litres and water = 18 litres
New ratio of rum to water = 1 : 2
Therefore, if $x$ is the amount of water to be added, then

$\frac{30}{(18 + x)} = \frac{1}{2}$

$18 + x = 60$

$x = 42$ litres

16. (b) : Rise of milk-level = volume of 3 spheres / Base area of cylinder

$= \frac{\left[\frac{4}{3}\pi(5)^3 \times 3\right]}{\{\pi(5)^2 \text{cm}\}} = 20$ cm

17. (d) : $\frac{(1956 - 1)^{475}}{4} = \frac{(-1)^{475}}{4} = -1$ or 3

18. (b) : Notice that the difference between the divisors and the remainder is constant. Therefore take the LCM of the divisors or any multiple of the LCM and subtract.
The difference between the divisor and the remainder
which is 2 in this case.
Therefore, smallest 3 digit number

= 15 × 7 − 2 = 105 – 2 = 103

19. (c) : Double in 4 years, four times in 8 years, eight times in 12 years.

20. (b) : Let the total marks in the exam be $T$. Therefore,
$0.4T + 20 = P$ ….. (1)
where $P$ is the passing marks
Also, $0.5T - 10 = P$ ….. (2)
Equating equations (1) and (2), we get
$0.4T + 20 = 0.5T - 1O$
$0.1T = 30$

$T = 300$ marks