

## HOTS QUESTIONS

### CLASS – VII

1. If 8 dozen marbles are sold at Rs 21, there is a profit of  $\frac{2}{5}$  of the total cost. What should be the retail price of each marble so that there is a profit of 60%?
2. A man bought 270 oranges for Rs 25, some of them at 10 a rupee and the rest at 12 a rupee. Find the number of each kind bought.
3. Aman pays Rs 200 more than  $\frac{1}{3}$  of his debt and still owes Rs 210 more than what he has paid. What was the original debt?
4. A cask contains 65 litres of a mixture of milk and water mixed in the ratio 10 : 3. How much water must be added to it so that the ratio of milk and water may be 8 : 5?
5. Two equal glasses are respectively  $\frac{1}{5}$ th and  $\frac{1}{6}$ th full of milk, they are then filled up with water and the contents are mixed in a tumbler. Find the ratio of milk to water in the tumbler.
6. A bag contains 8 red buttons and 6 green buttons. Mr Sharma takes out 2 red buttons and does not keep them back. What is the probability of drawing a red button?
7. The area of a circle of radius 5 cm is numerically what percent of its circumference?
8. In two triangles, the ratio of their areas is 4: 3 and that of their heights is 3 : 4. Find the ratio of their bases.
9. If  $2a-2=4$  and  $0.05b = 0.15$ , find the value of  $b^2 - a^2$ .
10.  $x\%$  of  $y + y\%$  of  $x = \text{-----}$ 
  - i) 3% of  $xy$
  - ii) 2% of  $xy$
  - iii) 2% of  $(x+y)$
  - iv) 5% of  $xy$ .