

HIGHER ORDER THINKING SKILL QUESTIONS

CLASS VIII

MATHEMATICS

1. If $x + \frac{1}{x} = 2$, find the value of $\frac{x}{1+x+x^2}$
2. If $x + \frac{1}{x} = 2$, find the value of $x - \frac{1}{x}$
3. If $x - \frac{1}{x} = 0$, find the value of $x^8 + \frac{1}{x^8}$
4. If $a+b = 5$, and $a-b=1$, find the value of $8ab(a^2+b^2)$
5. Find the value of $1.79 \times 1.79 + 2.42 \times 1.79 + 1.21 \times 1.21$
6. Express $x(x-3)(x-6)(x-9) + 81$ as a perfect square
7. Express $(x-1)(x-3)(x-4)(x-6) + 34$ as the sum of two squares
8. Factorise:
 - (i) $x^2y^2(a+b)^2 - a^2b^2(x+y)^2$
 - (ii) $x^8 - 16y^8$
 - (iii) $p^4 - 3p^2q^2 + 9q^4$
 - (iv) $4a^2b^2 - (a^2 + b^2 - c^2)^2$
9. Draw the graph of the equation $x+5=0$
10. Draw a graph of $y-7=0$
11. Draw the graph of the equation $y=3x$. From the graph, find the value of y when $x=4$
12. Draw the graph of the equation $4x+5y = 20$ and find the area of the triangle formed by the graph with the co-ordinate axes.
13. Two men and 6 boys can do a piece of work in 5 days while 8 men and 3 boys can do it in 3 days. In what time will 1 man and 3 boys do the work?
14. If 8 labourers can earn Rs.9000 in 15 days, how many labourers can earn Rs. 6300 in 7 days?
15. Three typists working 8 hours a day can type a document in 10 days. If only 2 typists are working, how many hours a day should they work to finish the job in 12 days?

16. A, B, and C working separately can do a piece of work in 2, 3, and 4 days respectively. If they all work together and are Rs.3900 for the whole work, how should they divide the money?