

CLASS 9 · HOTS · OLYMPIAD PREPARATION · DPP SHEET

Chapter 2: HOTS: Linear Polynomials (Class 9)

Daily practice problems: 8 questions with an answer key

Try every question on your own first. The answer key is on the last page.

1. A linear polynomial $p(x)$ has $p(2) = 1$ and $p(6) = 9$. Find $p(x)$.
2. Find k if $x = -3$ is a zero of $4x + k$.
3. Plan A has a fixed charge of Rs 120 and Rs 4 per minute. Plan B has no fixed charge and Rs 6 per minute. For how many minutes are the costs equal?
4. The line $y = ax + b$ passes through $(0, -3)$ and $(2, 5)$. Find a , b and the point where it cuts the x -axis.
5. A row of squares is made with matchsticks, so one square needs 4 sticks, two squares in a row need 7 and three need 10. How many sticks are needed for 20 squares, and how many squares can be made with 100 sticks?
6. A taxi charges a fixed Rs 30 plus Rs 12 per km. Find the fare for 8 km, and the distance for which the fare is Rs 198.
7. For what value of x does $5x - 7$ have the same value as $3x + 9$?
8. The n th term of a sequence is $4n + 3$. Which term of the sequence is 83?

Answer Key

1. $p(x) = 2x - 3$.
2. $k = 12$.
3. 60 minutes.
4. $a = 4$, $b = -3$, and the line cuts the x-axis at $\left(\frac{3}{4}, 0\right)$.
5. 61 sticks, and 33 squares (the pattern is $3n + 1$).
6. Rs 126 and 14 km.
7. $x = 8$.
8. The 20th term.

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