

1. Consider the line given by $y = 2x + 3$.
 - (a) Find five points on the line and arrange them in a table.
 - (b) Graph the line.
 - (c) Find the x -intercept and the y -intercept.
2. Find the slope-intercept form of the equation of the line through the points $(-1, 4)$ and $(2, 7)$.
3. Consider the line passing through the point $(3, 4)$ with slope -1 .
 - (a) Write down the equation of the line in point-slope form.
 - (b) Write down the equation of the line in slope-intercept form.
 - (c) Find all intercepts.
4. Consider the line $y = 3x - 1$.
 - (a) Find the equation of a parallel line through $(-2, 5)$.
 - (b) Find the equation of a perpendicular line through $(2, 4)$.
5. Consider the line $3x - 2y = 6$.
 - (a) Find the slope and intercepts of the line.
 - (b) Find a point on the line and a point not on the line.
 - (c) Write the equation of the line in slope-intercept form.
6. Find the point of intersection of the graphs of $-x + 3y = -24$ and $x + y = -8$.
7. Solve:
$$\begin{cases} y &= 3x + 2 \\ 3x + 6y &= 12 \end{cases}$$
8. Write down a system of two linear equations that has
 - (a) Exactly one solution
 - (b) No solution
 - (c) Infinitely many solutions
9. Derive the point-slope form of the equation for a line by following these steps.

Step 1: Let L be the line passing through the fixed point (x_1, y_1) and an arbitrary point (x, y) .

Step 2: Manipulate the general formula for the slope of L .