

Slope-Point Form (Point-Slope Form)



- This form is very important for calculus
- It is relatively easy to graph
- There are the most typical scenarios when this form is used:
 - 1.The slope of the line is known and only one point on the line is known.
 - 2.Two points on the line are known.

Example 1: Write an equation of a line in slope-point form if the line has a slope of $\frac{3}{4}$ and passes through the point P (-1, 4).

Example 2: Write an equation of a line in slope-point form if the line has a slope of -6 and passes through the point P (5, 3).

Example 3: Write an equation of a line in slope-point form if the line has a slope of $\frac{-1}{9}$ and passes through the point P (-1, -8).

Example 4: Write an equation of a line in slope-point form if the line passes through point A (4,-1) and B (10,6).

Step 1: Find the slope using both points.

Step 2: Choose one point and write the equation using the slope calculated in step 1.

Example 5: Write an equation of a line in slope-point form if the line passes through point P (-2,-9) and B (4,-6).

Example 6: Given that a line passes through points A (-2,3) and B (5,-9), write its equation in slope-point form, slope-intercept form, general form and standard form.