



3.7 Point-Slope Form

Need To Know



- Idea of the point-slope form of the equation of a line
- How to write equations of lines
- Graphing with a point and a slope



Writing an Equation for a Line

$y = mx + b$ is **not** always the best way to write an equation for a line.

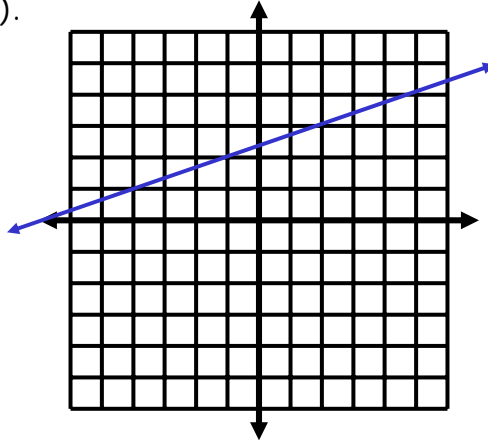
The next problem illustrates a dilemma which will leads us to a need for a new and better equation.

Writing an Equation for a Line

Write the equation of the line through the point $(-4, 1)$ and the point $(2, 3)$.

Need:

1. A formula:
 $y=mx+b$
2. A point
3. A slope



Point-Slope Form for the Equation of a Line

Point-Slope Form
for the Equation of a Line

The equation of a line through (x_1, y_1)
with slope m is given by



Practice

Slope-Intercept

Write the equation of the line that passes through $(-1, 6)$ and $m = 3/2$.

Need:

1. A formula
2. A point
3. A slope



Practice

Write the equation of the line that passes through $(-5, 0)$ and $(-2, 6)$ and write equation in slope-intercept form.

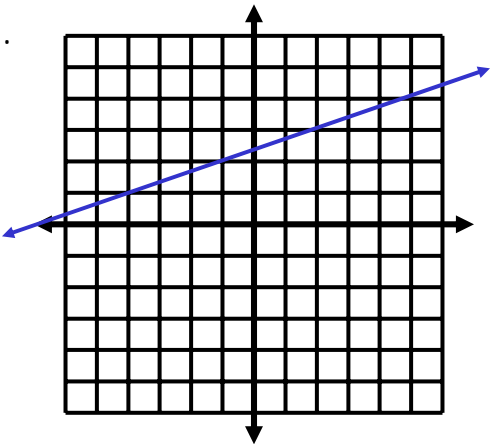
Need:

1. A formula
2. A point
3. A slope

Practice

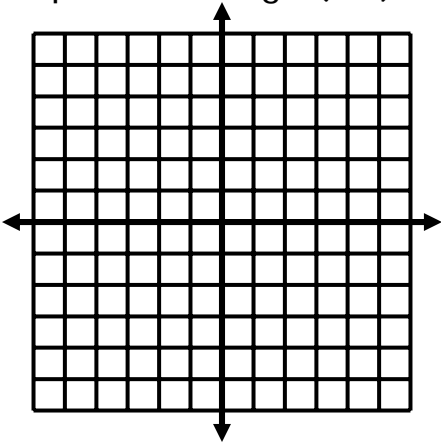
- Need:
- 1. A formula
 - 2. A point
 - 3. A slope

Write the equation of the line below in slope-intercept form.

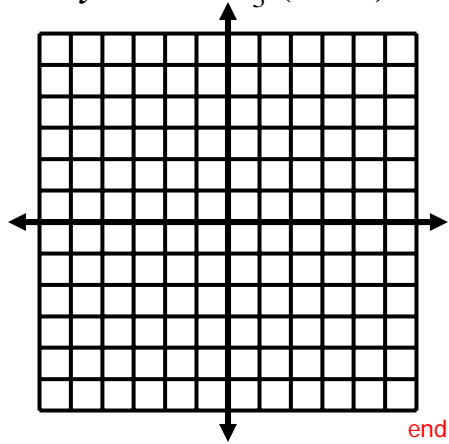


Graphing

Graph the line with $m = -3/2$ and that passes through $(1, 4)$



Graph the line from the equation:
 $y + 3 = -\frac{2}{3}(x - 1)$



end