Algebra 1 4.3 $y - y_1 = m(x - x_1)$

Write equations of lines in point-slope form

Write linear equations in different forms

slope-intercept form $y = mx + B$

point-slope form

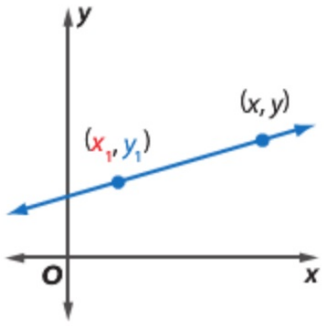
standard form $Ax + By = C$

speed dating

KeyConcept Point-Slope Form

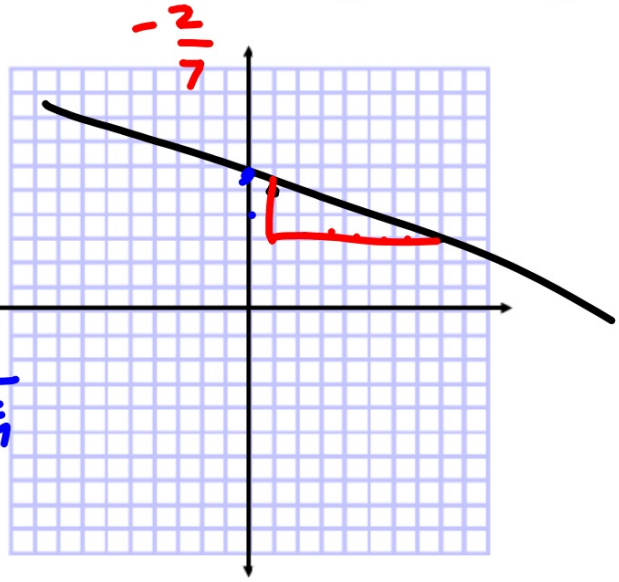
Words The linear equation $y - y_1 = m(x - x_1)$ is written in point-slope form, where (x_1, y_1) is a given point on a nonvertical line and m is the slope of the line.

Symbols $y - y_1 = m(x - x_1)$



$y-3=\frac{-2}{7}(x-8)$

Write the equation of the line passing through (1,5) and (8,3).



* $y-5=\frac{-2}{7}(x-1)$

a) point-slope form

$y=mx+b$ $\quad y-5=\frac{-2}{7}+\frac{2}{7}$

$+5 \quad +5$

b) slope-intercept form

$y=-\frac{2}{7}x+5\frac{2}{7}$

c) standard form $\quad +\frac{2}{7}x \quad +\frac{2}{7}x$

7. $\frac{2}{7}x+1y=5\frac{2}{7}$

$2x+7y=37$

$y-3=-2(x-1)$ $m=-\frac{8}{4}=-2$

Write the equation of the line passing through (1,3) and (5,-5).

$y+5=-2(x-5)$

a) point-slope form

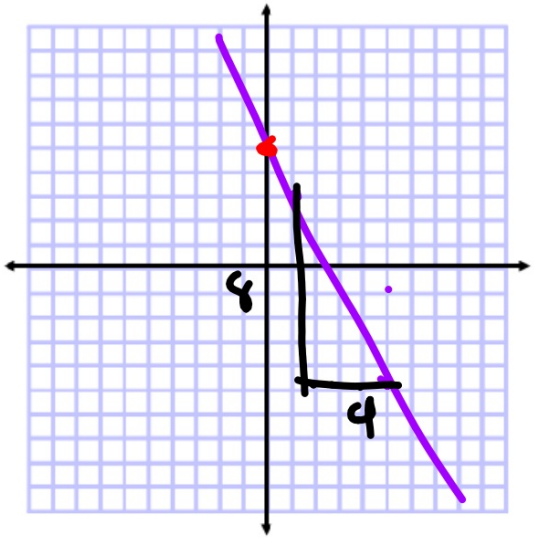
$y+5=-2x+10$
$-5 \quad\quad -5$

b) slope-intercept form

$y=-2x+5$
$2x \quad +2x$

c) standard form

$2x+y=5$

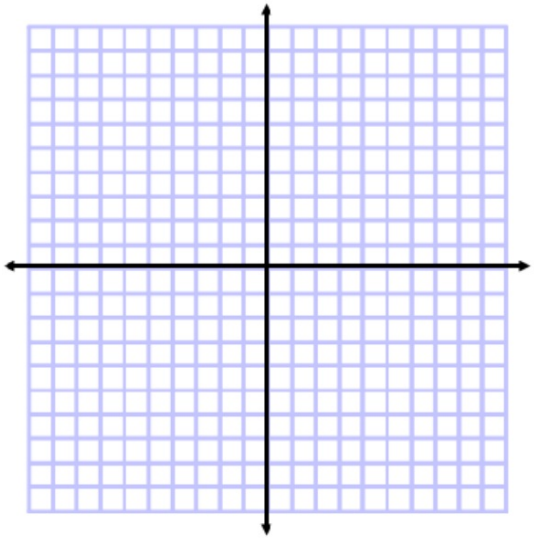


Write the equation of the line passing through (0, 6) and (8,-2).

a) point-slope form

b) slope-intercept form

c) standard form



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