Name_____ Date: _____ Period: ____

Point-Slope Form

Write an equation in point-slope form of the line that passes through the given point and has the given slope.

❶ (2, 7); m = -4

$y-7=-4(x-2)$

❷ (12, 5); m = -3

$y-5=-3(x-12)$

❸ (4, -5); m = 6

$y+5=6(x-4)$

❹ (-6, -2); m = 3

$y+2=3(x+6)$

❺ (7, -6); m = $\frac{1}{2}$

$y+6=\frac{1}{2}(x-7)$

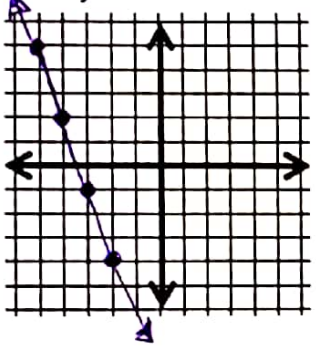
❻ (-8, 2); m = $-\frac{3}{4}$

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

Graph the equations below.

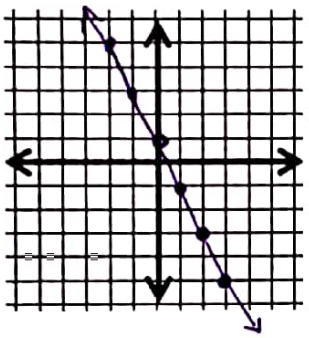
❼ y + 4 = -3(x + 2)

(-2, -4) m = -3



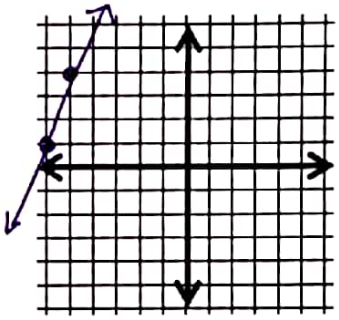
❽ y + 3 = -2(x – 2)

(2, -3) m = -2



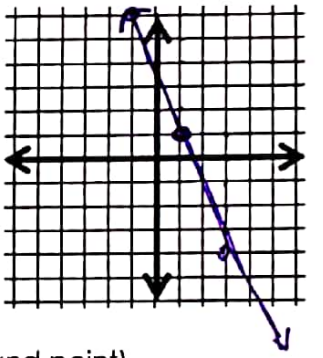
❾ y – 1 = 3(x + 6)

(-6, 1) m = 3



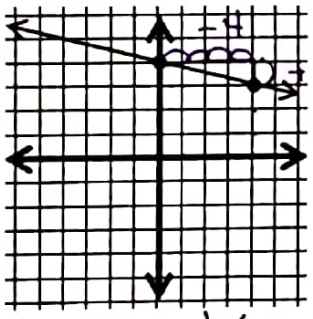
❿ y + 4 = $\frac{-5}{2}$(x – 3)

(3, -4) m = $-\frac{5}{2}$



Write an equation in point-slope form of the line graphed below. (Use the right hand point)

⓫

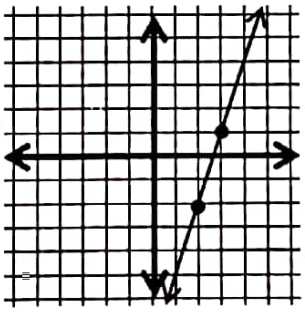


(4, 3)

$m=\frac{1}{-4}$

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

⓬

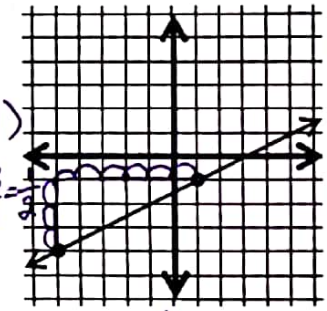


(2, -2)

m = 3

$y+2=3(x-2)$

⓭



(-5, -4)

$m=\frac{3}{6}=\frac{1}{2}$

$y+4=\frac{1}{2}(x+5)$

Write an equation in point-slope form of the line that passes through the two points given. Use the first point to write the equation.

⓮ (4,7) and (5, 1)

$x_1\ y_1 \quad x_2\ y_2$

$m=\frac{1-7}{5-4}=\frac{-6}{1}=-6$

$y-7=-6(x-4)$

⓯ (9, -2) and (-3, 2)

$m=\frac{2+2}{-3-9}=\frac{4}{-12}=-\frac{1}{3}$

$y+2=-\frac{1}{3}(x-9)$

⓰ (3, -8) and 7(-2)

(7, -2)

$m=\frac{-2+8}{7-3}=\frac{6}{4}=\frac{3}{2}$

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

① $y-7=-4(x-2)$

$y-7=-4x+8$

$+7 \quad +7$

$y=-4x+15$

② $y-5=-3(x-12)$

$y-5=-3x+36$

$+5 \quad +5$

$y=-3x+41$

③ $y+5=6(x-4)$

$y+5=6x-24$

$-5 \quad -5$

$y=6x-29$

④ $y+2=3(x+6)$

$y+2=3x+18$

$-2 \quad -2$

$y=3x+16$

⑤ $y+6=\frac{1}{2}(x-7)$

$y+6=\frac{1}{2}x-\frac{7}{2}$

$-6 \quad -6$

$y=\frac{1}{2}x-\frac{19}{2}$

⑥ $y-2=\frac{-3}{4}(x+8)$

$y-2=-\frac{3}{4}x-6$

$+2 \quad +2$

$y=-\frac{3}{4}x-4$

⑪ $y-3=-\frac{1}{4}(x-4)$

$y-3=-\frac{1}{4}x+1$

$+3 \quad +3$

$y=-\frac{1}{4}x+4$

⑫ $y+2=3(x-2)$

$y+2=3x-6$

$-2 \quad -2$

$y=3x-8$

⑬ $y+4=\frac{1}{2}(x+5)$

$y+4=\frac{1}{2}x+\frac{5}{2}$

$-4 \quad -4$

$y=\frac{1}{2}x-\frac{3}{2}$