

Welcome! Please get your ISN  
and complete the warmup in the  
Google classroom! Remember to  
turn in your homework!!



Sep 14-9:03 AM

TOC 33 U1 Point-slope  
form

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

↑  
plug in  
the y  
you were  
given

↑  
plug in  
the slope  
you were  
given

↑  
plug in  
the x  
you were  
given



Sep 8-8:15 AM

Point-Slope form

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

When Given slope and 1 point...

When Given 2 Points...

Sep 10-9:28 AM

Write the equation of a line with slope = 3 that passes through (2,4)

work  $m$

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

$$y - 4 = 3(x - 2)$$

$$y - 4 = 3x - 6$$

$$y = 3x - 2$$

When Given slope and 1 point...

steps  $x, y_1$

- ① Plug in  $m, x_1, y_1$
- ② Distribute
- ③ Get  $y$  by itself

Sep 8-8:19 AM

Write the equation of a line through

$(1, -3)$  and  $(4, 5)$   
 $x_1, y_1$        $x_2, y_2$

work

$$\frac{y_2 - y_1}{x_2 - x_1} = \frac{5 - (-3)}{4 - 1} = \frac{8}{3}$$

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

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

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

$$y = \frac{8}{3}x - \frac{17}{3}$$

steps

① Find the slope using  $\frac{y_2 - y_1}{x_2 - x_1}$

② Use the Point-Slope form; choose either point

When Given 2 Points...

Sep 9-7:50 AM

Page 34 U1 - Point slope form examples

Ex1 Write the equation of a line with:

a) slope =  $\frac{1}{2}$  that passes through  $(6, -2)$

slope

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

$$\frac{1}{2}x - 5 \quad y - (-2) = \frac{1}{2}(x - 6)$$

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

$$y = \frac{1}{2}x - 5$$

b) slope =  $-4$  through the origin

$$-4 \quad (0, 0)$$

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

$$y - 0 = -4(x - 0)$$

$$y = -4x$$

Sep 9-7:54 AM

Ex2 (pg 34) Write the equation of a line through:

a) (7, 4) and (-3, -1)

$$\frac{-1-4}{-3-7} = \frac{-5}{-10} = 2$$

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

b) (0,0) and (9, -3)

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

$$\begin{aligned} y - 4 &= 2(x - 7) \\ y - 4 &= 2x - 14 \\ y &= 2x - 10 \end{aligned}$$



Sep 9-7:55 AM

# Homework

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

1 (2, 7);  $m = -4$

2 (12, 5);  $m = -3$

3 (4, -5);  $m = 6$

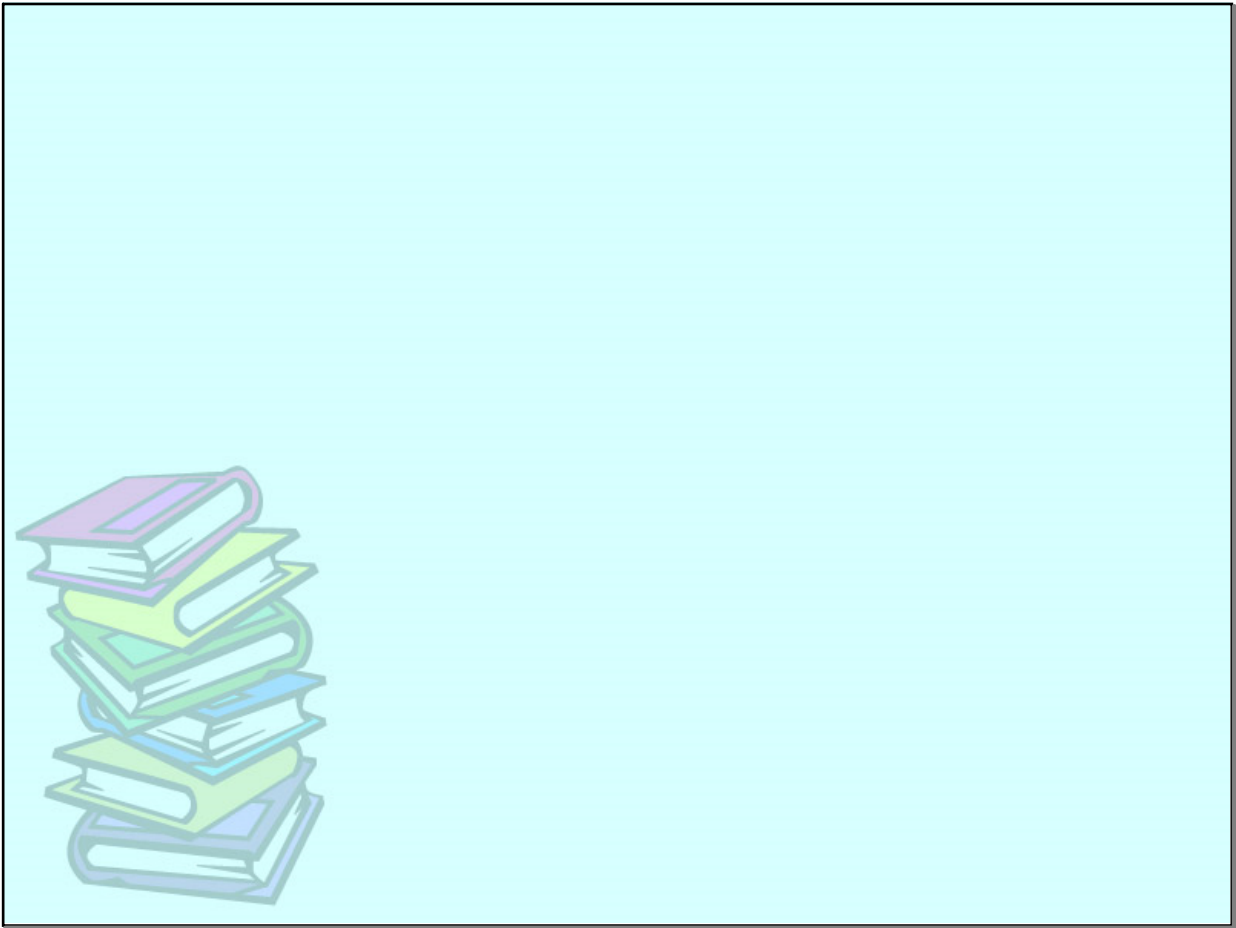
4 (7, -6);  $m = \frac{1}{2}$

5 (-6, -2);  $m = 3$

6 (-8, 2);  $m = -\frac{3}{4}$



Sep 9-7:56 AM



Aug 31-5:29 PM