

Warm Up: Alg 2

10/2

None.

Feb 27-7:39 AM

W.A.L.T.:

Day 4

Remind you of the forms of a line.

W.A.S.I.:

We can write the equation of a line given provided information and find the slope and y-intercept given a line.

Mar 7-9:45 AM

## Notes!!! Slope intercept form

It is called slope intercept form because it is very easy to find the slope and the y intercept.

where

y = output

m = slope

x = input

b = y-int.

$$y = mx + b$$

*(Handwritten annotations: a blue circle around 'm', a pink arrow pointing to 'm', and a pink arrow pointing to 'b')*

$$y = -x$$

*(Handwritten equation in pink ink)*

Dec 31-10:01 PM

## In Class Work: From Worksheet

Find the slope and y-intercept of the graph of each equation.

1.  $y = 3x - 5$

2.  $y = -5x + 13$

3.  $y = -x - 1$

Mar 7-1:33 PM

## In Class Work: From Worksheet

Write an equation of a line with the given slope  $m$  and  $y$ -intercept  $b$ .

4.  $m = -1, b = 3$

5.  $m = 4, b = -2$

6.  $m = -5, b = -8$

$$y = -x + 3$$

$$y = 4x - 2$$

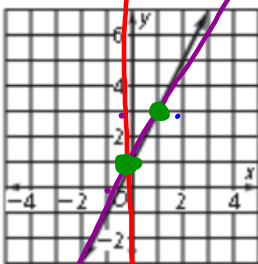
$$y = -5x - 8$$

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## In Class Work: From Worksheet

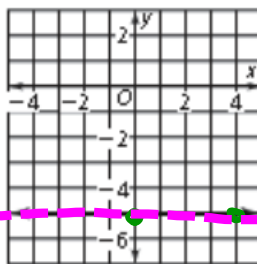
Write an equation in slope-intercept form of each line.

7.



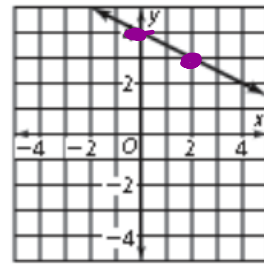
$$y = 2x + 1$$

8.



$$y = -5$$

9.



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

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## In Class Work: From Worksheet

Write an equation in slope-intercept form of the line that passes through the given points.

10.  $(3, 4)$  and  $(0, 4)$

11.  $(2, 6)$  and  $(-4, -2)$

$(x, y)$

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

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

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## Notes!!!

Another form of the equation of a line is the point-slope form. The point-slope form of the equation is found by solving the slope formula  $m = \frac{y - y_1}{x - x_1}$  for  $y - y_1$ , by multiplying both sides by  $x - x_1$ . You may use this form when you know a point on the line and the slope.

### Point-Slope Form of a Linear Equation

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

where  $m$  is the slope of the line and  $(x_1, y_1)$  is a point on the line.

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## In Class Work: From Worksheet

17.  $(-4, 11); m = \frac{3}{4}$

18.  $(-3, -5); m = -2$

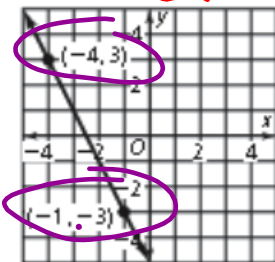
$$y + 5 = -2(x + 3)$$

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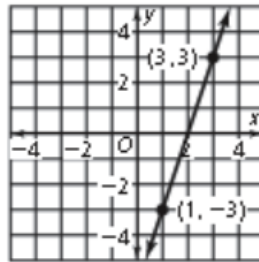
## In Class Work: From Worksheet

Write an equation in point-slope form for each line.

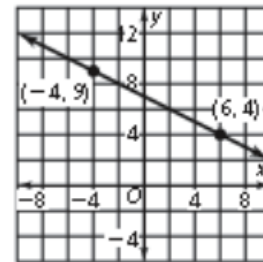
22.

 $-2$ 

23.



24.



$$y + 3 = -2(x + 1)$$

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Today's Activities:

- In class work

P.W. for tonight:

- Finish Worksheet

Day 4

Dec 31-9:59 PM