## **General Algebra II** Lesson #3 Unit 2 Notes #3 **Class Worksheet #3** For Worksheets #5 & #6

1. The line through (0, 1) parallel to -5x + 2y = -4



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oblique line

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X

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oblique line

 $\mathbf{y} = \mathbf{m}\mathbf{x} + \mathbf{b}$ 

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



**1.** The line through (0, 1) parallel to -5x + 2y = -4

oblique line

y = mx + b m<sub>2</sub> = -5x + 2y = -4 2y = 5x - 4 $y = \frac{5}{2}x - 2$ 



**1.** The line through (0, 1) parallel to -5x + 2y = -4

oblique line

y = mx + b  $m_2 = 5/2$  -5x + 2y = -4 2y = 5x - 4 $y = \frac{5}{2}x - 2$ 



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y = mx + b  $m_2 = 5/2$  -5x + 2y = -4 2y = 5x - 4 $y = \frac{5}{2}x - 2$ 

$$m_1 = 5/2$$



**1.** The line through (0, 1) parallel to -5x + 2y = -4

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y = mx + b m<sub>2</sub> = 5/2 b = 1 -5x + 2y = -42y = 5x - 4 y =  $\frac{5}{2}x - 2$ 



**1.** The line through (0, 1) parallel to -5x + 2y = -4

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y = mx + b m<sub>2</sub> = 5/2 b = 1 -5x + 2y = -42y = 5x - 4 y =  $\frac{5}{2}x - 2$ 

 $y = m_1 = 5/2$ 



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**1.** The line through (0, 1) parallel to -5x + 2y = -4

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y = mx + b m<sub>2</sub> = 5/2 b = 1 y =  $\frac{5}{2}x + 1$ -5x + 2y = -4 2y = 5x - 4 y =  $\frac{5}{2}x - 2$ m<sub>1</sub> = 5/2



1. The line through (0, 1) parallel to -5x + 2y = -4

oblique line y = mx + b -5x + 2y = -4

 $m_2 = 5/2$ 

**b** = 1

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

2y = 5x - 4

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



1. The line through (0, 1) parallel to -5x + 2y = -4

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1. The line through (0, 1) parallel to -5x + 2y = -4

oblique line-5x + 2y = -4y = mx + b2y = 5x - 4 $m_2 = 5/2$ 2y = 5x - 4b = 1 $y = \frac{5}{2}x - 2$  $y = \frac{5}{2}x + 1$  $m_1 = 5/2$ 



2. The line through (-3, 2) parallel to 4x + 3y = 9



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oblique line

 $4\mathbf{x} + 3\mathbf{y} = 9$ 



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oblique line

4x + 3y = 93y = -4x + 9



2. The line through (-3, 2) parallel to 4x + 3y = 9

oblique line



X

0

2. The line through (-3, 2) parallel to 4x + 3y = 9

oblique line

4x + 3y = 93y = -4x + 9 $y = \frac{-4}{3}x$ 



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2. The line through (-3, 2) parallel to 4x + 3y = 9

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4x + 3y = 9 3y = -4x + 9  $y = \frac{-4}{3}x + 3$  $m_1 = -\frac{4}{3}$ 



2. The line through (-3, 2) parallel to 4x + 3y = 9

oblique line

y = mx + b 4x + 3y = 9 3y = -4x + 9  $y = \frac{-4}{3}x + 3$   $m_1 = -\frac{4}{3}$ 

X

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2. The line through (-3, 2) parallel to 4x + 3y = 9

oblique line

y = mx + b  $m_2 = y = -\frac{4}{3}x + 3$   $m_1 = -\frac{4}{3}$  $m_1 = -\frac{4}{3}$ 

X

2. The line through (-3, 2) parallel to 4x + 3y = 9

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y = mx + b

 $m_2 = -4/3$ 

4x + 3y = 9 3y = -4x + 9  $y = \frac{-4}{3}x + 3$  $m_1 = -\frac{4}{3}$ 



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y = mx + b  $m_2 = -4/3$ b = ? 4x + 3y = 9 3y = -4x + 9 $y = \frac{-4}{3}x + 3$ 

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**2.** The line through (-3, 2) parallel to 4x + 3y = 9

oblique line

y = mx + b  

$$m_2 = -4/3$$
  
b = ?  
 $4x + 3y = 9$   
 $3y = -4x + 9$   
 $y = \frac{-4}{3}x + 3$ 

 $y - y_1 = m(x - x_1)$   $m_1 = -4/3$ 



**2.** The line through (-3, 2) parallel to 4x + 3y = 9

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y = mx + b  $m_2 = -4/3$ b = ? 4x + 3y = 9 3y = -4x + 9 $y = \frac{-4}{3}x + 3$ 

 $y - y_1 = m(x - x_1)$   $m_1 = -4/3$ y - 2 =



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y = mx + b  $m_2 = -4/3$ b = ? 4x + 3y = 9 3y = -4x + 9 $y = \frac{-4}{3}x + 3$ 

 $y - y_1 = m(x - x_1)$   $y - 2 = \frac{-4}{3}(x - -3)$  $m_1 = -4/3$ 



**2.** The line through (-3, 2) parallel to 4x + 3y = 9

oblique line

y = mx + b  $m_2 = -4/3$ b = ? 4x + 3y = 9 3y = -4x + 9 $y = \frac{-4}{3}x + 3$ 

y - y<sub>1</sub> = m(x - x<sub>1</sub>) m<sub>1</sub> = -4/3 y - 2 =  $\frac{-4}{3}(x + 3)$ 



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 $y - y_1 = m(x - x_1)$   $y - 2 = \frac{-4}{3}(x + 3)$  $y - 2 = \frac{-4}{3}x - 4$ 



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

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

**2.** The line through (-3, 2) parallel to 4x + 3y = 9

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y = mx + b  $m_2 = -4/3$ b = ? 4x + 3y = 9 3y = -4x + 9 $y = \frac{-4}{3}x + 3$ 

 $y - y_1 = m(x - x_1)$   $y - 2 = \frac{-4}{3}(x + 3)$  $m_1 = -4/3$ 

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



X

0

2. The line through (-3, 2) parallel to 4x + 3y = 9

 $y = \frac{-4}{3}x - 2$ **oblique line**  $4\mathbf{x} + 3\mathbf{y} = 9$ y = mx + b3y = -4x + 9 $m_2 = -4/3$  $y = -\frac{4}{3}x + 3$ **b** = ?  $y - y_1 = m(x - x_1)$  $m_1 = -4/3$  $y-2=\frac{-4}{3}(x+3)$  $y-2 = \frac{-4}{3}x - 4$  $y = \frac{-4}{3}x - 2$ 

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 $y = \frac{-4}{3}x - 2$ **oblique line**  $4\mathbf{x} + 3\mathbf{y} = 9$ y = mx + b3y = -4x + 9 $m_2 = -4/3$  $y = -\frac{4}{3}x + 3$  $y = \frac{-4}{3}x - 2$ **b** = ?  $y = \frac{-4}{3}x + 3$  $y - y_1 = m(x - x_1)$  $m_1 = -4/3$  $y-2=\frac{-4}{3}(x+3)$  $y-2 = \frac{-4}{3}x - 4$  $y = \frac{-4}{3}x - 2$ 

2. The line through (-3, 2) parallel to 4x + 3y = 9



3. The line through (2, 5) parallel to x - 3y = 6



3. The line through (2, 5) parallel to x - 3y = 6



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$$\mathbf{x} - 3\mathbf{y} = \mathbf{6}$$



3. The line through (2, 5) parallel to x - 3y = 6

oblique line



X

0

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oblique line

x - 3y = 6-3y = -x + 6 $y = \frac{1}{3}x$ 



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oblique line

y = mx + b

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 $m_1 = 1/3$ 



3. The line through (2, 5) parallel to x - 3y = 6

oblique line

y = mx + b  $m_{2} = x - 3y = 6$  -3y = -x + 6  $y = \frac{1}{3}x - 2$ 

 $m_1 = 1/3$ 


3. The line through (2, 5) parallel to x - 3y = 6

 $m_1 = 1/3$ 

oblique line

y = mx + b m<sub>2</sub> = 1/3 x - 3y = 6 -3y = -x + 6 $y = \frac{1}{3}x - 2$ 

y

**3.** The line through (2, 5) parallel to x - 3y = 6

oblique line

y = mx + b m<sub>2</sub> = 1/3 x - 3y = 6 -3y = -x + 6 $y = \frac{1}{3}x - 2$ 

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**3.** The line through (2, 5) parallel to x - 3y = 6

 $m_1 = 1/3$ 

oblique line

y = mx + b m<sub>2</sub> = 1/3 b = ? x - 3y = 6-3y = -x + 6  $y = \frac{1}{3}x - 2$ 



**3.** The line through (2, 5) parallel to x - 3y = 6

oblique line

y = mx + b  
m<sub>2</sub> = 1/3  
b = ?  

$$x - 3y = 6$$
  
-3y = -x + 6  
y =  $\frac{1}{3}x - 2$ 

 $y - y_1 = m(x - x_1)$   $m_1 = 1/3$ 



**3.** The line through (2, 5) parallel to x - 3y = 6

y = mx + b  
m<sub>2</sub> = 1/3  
b = ?  

$$x - 3y = 6$$
  
-3y = -x + 6  
 $y = \frac{1}{3}x - 2$ 

$$y - y_1 = m(x - x_1)$$
  $m_1 = 1/3$   
 $y - 5 =$ 



**3.** The line through (2, 5) parallel to x - 3y = 6

y = mx + b  
m<sub>2</sub> = 1/3  
b = ?  

$$x - 3y = 6$$
  
-3y = -x + 6  
y =  $\frac{1}{3}x - 2$ 

$$y - y_1 = m(x - x_1)$$
  
 $y - 5 = \frac{1}{3}($ 
 $m_1 = 1/3$ 



**3.** The line through (2, 5) parallel to x - 3y = 6

y = mx + b  
m<sub>2</sub> = 1/3  
b = ?  

$$x - 3y = 6$$
  
-3y = -x + 6  
y =  $\frac{1}{3}x - 2$ 

y - y<sub>1</sub> = m(x - x<sub>1</sub>) m<sub>1</sub> = 1/3  
y - 5 = 
$$\frac{1}{3}$$
(x - 2)



**3.** The line through (2, 5) parallel to x - 3y = 6

oblique line

y - 5 =

y = mx + b  

$$m_2 = 1/3$$
  
h = ?  
 $x - 3y = 6$   
 $-3y = -x + 6$   
 $y = \frac{1}{3}x - 2$ 

y - y<sub>1</sub> = m(x - x<sub>1</sub>) m<sub>1</sub> = 1/3  
y - 5 = 
$$\frac{1}{3}$$
(x - 2)



**3.** The line through (2, 5) parallel to x - 3y = 6

oblique line

y = mx + b  
m<sub>2</sub> = 1/3  
b = ?  

$$x - 3y = 6$$
  
-3y = -x + 6  
y =  $\frac{1}{3}x - 2$ 

y - y<sub>1</sub> = m(x - x<sub>1</sub>) m<sub>1</sub> = 1/3 y - 5 =  $\frac{1}{3}$ (x - 2) y - 5 =  $\frac{1}{3}$ x



**3.** The line through (2, 5) parallel to x - 3y = 6

oblique line

y = mx + b m<sub>2</sub> = 1/3 b = ? x - 3y = 6 -3y = -x + 6 $y = \frac{1}{3}x - 2$ 

y - y<sub>1</sub> = m(x - x<sub>1</sub>) m<sub>1</sub> = 1/3 y - 5 =  $\frac{1}{3}(x - 2)$ y - 5 =  $\frac{1}{3}x - \frac{2}{3}$  x

**3.** The line through (2, 5) parallel to x - 3y = 6

**oblique line** 

D -

 $y-5=\frac{1}{3}x-\frac{2}{3}$ 

$$x - 3y = 6$$
  

$$m_2 = 1/3$$
  

$$b = ?$$

$$x - 3y = 6$$
  

$$-3y = -x + 6$$
  

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

$$y - y_1 = m(x - x_1)$$
  
 $y - 5 = \frac{1}{2}(x - 2)$   
 $m_1 = 1/2$ 



**3.** The line through (2, 5) parallel to x - 3y = 6

3

**oblique line** 

 $y-5=\frac{1}{3}x-\frac{2}{3}$ 

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

$$x = mx + b$$
  
 $m_2 = 1/3$   
 $b = ?$   
 $x - 3y = 6$   
 $-3y = -x + 6$   
 $y = \frac{1}{3}x - 2$ 

 $\mathbf{y} - \mathbf{y}_1 = \mathbf{m}(\mathbf{x} - \mathbf{x}_1)$  $m_1 = 1/3$  $y-5=\frac{1}{3}(x-2)$ 



**3.** The line through (2, 5) parallel to x - 3y = 6

3

**oblique line** 

 $y-5=\frac{1}{3}x-\frac{2}{3}$ 

 $y = \frac{1}{3}x + \frac{13}{3}$ 

$$x = mx + b$$
  
 $m_2 = 1/3$   
 $b = ?$   
 $x - 3y = 6$   
 $-3y = -x + 6$   
 $y = \frac{1}{3}x - 2$ 

 $y - y_1 = m(x - x_1)$  $m_1 = 1/3$  $y-5=\frac{1}{3}(x-2)$ 



X

3. The line through (2, 5) parallel to x - 3y = 6







3. The line through (2, 5) parallel to x - 3y = 6

**oblique line**  $\mathbf{x} - 3\mathbf{y} = \mathbf{6}$ y = mx + b-3y = -x + 6 $m_2 = 1/3$  $y = \frac{1}{3}x - 2$ **b** = ?  $y - y_1 = m(x - x_1)$  $m_1 = 1/3$  $y-5=\frac{1}{3}(x-2)$  $y-5=\frac{1}{3}x-\frac{2}{3}$  $y = \frac{1}{3}x + \frac{13}{3}$ 



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

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

Χ

3. The line through (2, 5) parallel to x - 3y = 6



4. The line through (0, 4) perpendicular to 2x - 3y = 9



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4. The line through (0, 4) perpendicular to 2x - 3y = 9oblique line



4. The line through (0, 4) perpendicular to 2x - 3y = 9

$$2x - 3y = 9$$



4. The line through (0, 4) perpendicular to 2x - 3y = 9**oblique line** 2x - 3y = 9-3y = X 0

4. The line through (0, 4) perpendicular to 2x - 3y = 9**oblique line** 2x - 3y = 9-3y = -2xX 0

4. The line through (0, 4) perpendicular to 2x - 3y = 9





4. The line through (0, 4) perpendicular to 2x - 3y = 9





4. The line through (0, 4) perpendicular to 2x - 3y = 9

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



4. The line through (0, 4) perpendicular to 2x - 3y = 9

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



4. The line through (0, 4) perpendicular to 2x - 3y = 9

oblique line

2x - 3y = 9-3y = -2x + 9 $y = \frac{2}{3}x - 3$  $m_1 = \frac{2}{3}$ 



4. The line through (0, 4) perpendicular to 2x - 3y = 9





4. The line through (0, 4) perpendicular to 2x - 3y = 9

oblique line

y = mx + b -3y = -2x + 9  $y = \frac{2}{3}x - 3$  $m_1 = 2/3$ 

X

4. The line through (0, 4) perpendicular to 2x - 3y = 9

oblique line

y = mx + b  $m_2 = y = \frac{2}{3}x - 3$   $m_1 = 2/3$  2x - 3y = 9 -3y = -2x + 9 $y = \frac{2}{3}x - 3$ 

X

4. The line through (0, 4) perpendicular to 2x - 3y = 9

 $m_1 = 2/3$ 

oblique line

y = mx + b  $m_2 = -3/2$  2x - 3y = 9 -3y = -2x + 9 $y = \frac{2}{3}x - 3$ 



4. The line through (0, 4) perpendicular to 2x - 3y = 9

oblique line

y = mx + b  $m_2 = -3/2$  2x - 3y = 9 -3y = -2x + 9 $y = \frac{2}{3}x - 3$ 

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4. The line through (0, 4) perpendicular to 2x - 3y = 9

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y = mx + b  $m_2 = -3/2$ b = 4 2x - 3y = 9 -3y = -2x + 9 $y = \frac{2}{3}x - 3$ 

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y = mx + b  $m_2 = -3/2$ b = 4 2x - 3y = 9 -3y = -2x + 9 $y = \frac{2}{3}x - 3$ 

 $y = m_1 = 2/3$ 



4. The line through (0, 4) perpendicular to 2x - 3y = 9

y = mx + b  
m<sub>2</sub> = -3/2  
b = 4  
y = 
$$\frac{-3}{2}x$$
  
 $2x - 3y = 9$   
 $-3y = -2x + 9$   
 $y = \frac{2}{3}x - 3$   
m<sub>1</sub> = 2/3


4. The line through (0, 4) perpendicular to 2x - 3y = 9

oblique line

L

y = mx + b  
m<sub>2</sub> = -3/2  
b = 4  
y = 
$$\frac{-3}{2}x + 4$$
  
 $2x - 3y = 9$   
 $-3y = -2x + 9$   
 $y = \frac{2}{3}x - 3$   
m<sub>1</sub> = 2/3



4. The line through (0, 4) perpendicular to 2x - 3y = 9

2x - 3y = 9

 $m_1 = 2/3$ 

oblique line

 $\mathbf{y} = \mathbf{m}\mathbf{x} + \mathbf{b}$ 

 $m_2 = -3/2$ 

 $\mathbf{b} = \mathbf{4}$ 

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

-3y = -2x + 9

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



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

4. The line through (0, 4) perpendicular to 2x - 3y = 9

oblique line

y = mx + b

 $m_2 = -3/2$ 

 $\mathbf{b} = \mathbf{4}$ 

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

2x - 3y = 9-3y = -2x + 9

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

 $m_1 = 2/3$ 



4. The line through (0, 4) perpendicular to 2x - 3y = 9

 $2\mathbf{x} - 3\mathbf{y} = 9$ 

oblique line

 $\mathbf{y} = \mathbf{m}\mathbf{x} + \mathbf{b}$ 

$$\begin{array}{l}
 -3y = -2x + 9 \\
 y = -3/2 \\
 b = 4 \\
 y = -\frac{3}{2}x + 4 \\
 y = \frac{-3}{2}x + 4
 \end{array}$$

$$\begin{array}{l}
 -3y = -2x + 9 \\
 y = \frac{2}{3}x - 3 \\
 m_1 = 2/3
 \end{array}$$









5. The line through (5, -2) perpendicular to 5x + 2y = -8 oblique line



5. The line through ( 5, -2 ) perpendicular to 5x + 2y = -8oblique line

5x + 2y = -8



5. The line through (5, -2) perpendicular to 5x + 2y = -8**oblique line**  $5\mathbf{x} + 2\mathbf{y} = -8$ **2y** = X 0

5. The line through (5, -2) perpendicular to 5x + 2y = -8**oblique line**  $5\mathbf{x} + 2\mathbf{y} = -8$ 2y = -5xX 0

5. The line through (5, -2) perpendicular to 5x + 2y = -8**oblique line**  $5\mathbf{x} + 2\mathbf{y} = -8$ 2y = -5x - 8X 0

5. The line through (5, -2) perpendicular to 5x + 2y = -8oblique line 5x + 2y = -82y = -5x - 8y =

5. The line through (5, -2) perpendicular to 5x + 2y = -8

oblique line



5. The line through (5, -2) perpendicular to 5x + 2y = -8

oblique line





5. The line through (5, -2) perpendicular to 5x + 2y = -8

oblique line



X

5. The line through (5, -2) perpendicular to 5x + 2y = -8

oblique line



**5.** The line through (5, -2) perpendicular to 5x + 2y = -8

oblique line



**5.** The line through (5, -2) perpendicular to 5x + 2y = -8

oblique line

y = mx + b m<sub>2</sub> = 5x + 2y = -8 2y = -5x - 8 $y = -\frac{5}{2}x - 4$ 



**5.** The line through (5, -2) perpendicular to 5x + 2y = -8

oblique line

y = mx + b

 $m_2 = 2/5$ 

5x + 2y = -82y = -5x - 8 $y = \frac{-5}{2}x - 4$ 



**5.** The line through (5, -2) perpendicular to 5x + 2y = -8

oblique line

y = mx + b

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**5.** The line through (5, -2) perpendicular to 5x + 2y = -8

oblique line

y = mx + b m<sub>2</sub> = 2/5 b = ? 5x + 2y = -8 2y = -5x - 8 $y = \frac{-5}{2}x - 4$ 



**5.** The line through (5, -2) perpendicular to 5x + 2y = -8

oblique line

y = mx + b  

$$m_2 = 2/5$$
  
b = ?  
 $5x + 2y = -8$   
 $2y = -5x - 8$   
 $y = \frac{-5}{2}x - 4$ 

 $y - y_1 = m(x - x_1)$   $m_1 = -5/2$ 



**5.** The line through (5, -2) perpendicular to 5x + 2y = -8

oblique line

y = mx + b  

$$m_2 = 2/5$$
  
b = ?  
 $5x + 2y = -8$   
 $2y = -5x - 8$   
 $y = \frac{-5}{2}x - 4$ 

 $y - y_1 = m(x - x_1)$   $m_1 = -5/2$ y - -2 =



**5.** The line through (5, -2) perpendicular to 5x + 2y = -8

oblique line

У

$$5x + 2y = -8$$
  

$$m_2 = 2/5$$
  

$$b = 2$$
  

$$5x + 2y = -8$$
  

$$2y = -5x - 8$$
  

$$y = \frac{-5}{2}x - 4$$

 $y - y_1 = m(x - x_1)$  $y - -2 = \frac{2}{5}($   $m_1 = -5/2$ 



**5.** The line through (5, -2) perpendicular to 5x + 2y = -8

oblique line

y

$$5x + 2y = -8$$
  

$$m_2 = 2/5$$
  

$$b = 2$$

$$5x + 2y = -8$$
  

$$2y = -5x - 8$$
  

$$y = -\frac{5}{2}x - 4$$

y - y<sub>1</sub> = m(x - x<sub>1</sub>) m<sub>1</sub> = -5/2 y - -2 =  $\frac{2}{5}(x - 5)$ 



**5.** The line through (5, -2) perpendicular to 5x + 2y = -8

oblique line

y = mx + b  $m_2 = 2/5$ b = ? 5x + 2y = -8 2y = -5x - 8 $y = -\frac{5}{2}x - 4$ 

y - y<sub>1</sub> = m(x - x<sub>1</sub>) m<sub>1</sub> = -5/2 y - -2 =  $\frac{2}{5}(x - 5)$  y + 2 =

**5.** The line through (5, -2) perpendicular to 5x + 2y = -8

oblique line

y = mx + b  $m_2 = 2/5$ b = ? 5x + 2y = -8 2y = -5x - 8 $y = -\frac{5}{2}x - 4$ 

 $y - y_1 = m(x - x_1)$   $y - 2 = \frac{2}{5}(x - 5)$  $y + 2 = \frac{2}{5}x$ 



**5.** The line through (5, -2) perpendicular to 5x + 2y = -8

oblique line

y = mx + b  $m_2 = 2/5$ b = ? 5x + 2y = -8 2y = -5x - 8 $y = -\frac{5}{2}x - 4$ 

y - y<sub>1</sub> = m(x - x<sub>1</sub>) m<sub>1</sub> = -5/2 y - -2 =  $\frac{2}{5}(x - 5)$ y + 2 =  $\frac{2}{5}x - 2$ 



**5.** The line through (5, -2) perpendicular to 5x + 2y = -8

**oblique line** 

 $\mathbf{V} = \mathbf{I}$ 

**m**<sub>2</sub> :

= mx + b  

$$h_2 = 2/5$$
  
b = ?  
 $5x + 2y = -8$   
 $2y = -5x - 8$   
 $y = \frac{-5}{2}x - 4$ 

$$y = \frac{-5}{2}x - 4$$

$$y - y_1 = m(x - x_1)$$
  
 $y - -2 = \frac{2}{5}(x - 5)$ 
 $m_1 = -5/2$ 



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

**5.** The line through (5, -2) perpendicular to 5x + 2y = -8

oblique line

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

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

y = mx + b  $m_2 = 2/5$  5x + 2y = -82y = -5x - 8

**b** = ? 
$$y = \frac{-3}{2}x - 4$$

y - y<sub>1</sub> = m(x - x<sub>1</sub>) m<sub>1</sub> = -5/2 y - -2 =  $\frac{2}{5}(x - 5)$ 



**5.** The line through (5, -2) perpendicular to 5x + 2y = -8

oblique line

**b** = ?

y = mx + b  $m_2 = 2/5$  5x + 2y = -82y = -5x - 8

$$\mathbf{y} = \frac{-5}{2} \mathbf{x} - 4$$

$$y - y_1 = m(x - x_1)$$
  
 $y - -2 = \frac{2}{5}(x - 5)$   
 $m_1 = -5/2$ 

X

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

5. The line through (5, -2) perpendicular to 5x + 2y = -8

 $y = \frac{2}{5}x - 4$ **oblique line** 5x + 2y = -8y = mx + b2y = -5x - 8 $m_2 = 2/5$  $y = \frac{-5}{2}x - 4$ **b** = ?  $y - y_1 = m(x - x_1)$ 0  $m_1 = -5/2$  $y - -2 = \frac{2}{5}(x - 5)$  $y + 2 = \frac{2}{5}x - 2$  $y = \frac{2}{5}x - 4$ 

5. The line through (5, -2) perpendicular to 5x + 2y = -8

 $y = \frac{2}{5}x - 4$ **oblique line** 5x + 2y = -8y = mx + b2y = -5x - 8 $m_2 = 2/5$  $y = \frac{-5}{2}x - 4$ **b** = ?  $y = \frac{-5}{2}x - 4$  $y - y_1 = m(x - x_1)$  $m_1 = -5/2$  $y - -2 = \frac{2}{5}(x - 5)$  $y = \frac{2}{5}x - 4$  $y + 2 = \frac{2}{5}x - 2$  $y = \frac{2}{5}x - 4$ 



6. The line through (1, -3) perpendicular to 3x - y = 2


6. The line through (1, -3) perpendicular to 3x - y = 2



6. The line through (1, -3) perpendicular to 3x - y = 2



6. The line through (1, -3) perpendicular to 3x - y = 2oblique line



6. The line through (1, -3) perpendicular to 3x - y = 2**oblique line** 3x - y = 2X 0

6. The line through (1, -3) perpendicular to 3x - y = 2**oblique line** 3x - y = 2 $-\mathbf{V} =$ X 0

6. The line through (1, -3) perpendicular to 3x - y = 2**oblique line** 3x - y = 2-y = -3xX 0

6. The line through (1, -3) perpendicular to 3x - y = 2**oblique line** 3x - y = 2-y = -3x + 2X 0

6. The line through (1, -3) perpendicular to 3x - y = 2**oblique line** 3x - y = 2 $-\mathbf{y} = -3\mathbf{x} + 2$ **y** = X 0

6. The line through (1, -3) perpendicular to 3x - y = 2oblique line 3x - y = 2-y = -3x + 2y = 3x

6. The line through (1, -3) perpendicular to 3x - y = 2oblique line

$$3x - y = 2$$
  

$$y = -3x + 2$$
  

$$y = 3x - 2$$

X

0

6. The line through (1, -3) perpendicular to 3x - y = 2

oblique line

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



6. The line through (1, -3) perpendicular to 3x - y = 2oblique line 3x - y = 2



6. The line through (1, -3) perpendicular to 3x - y = 2**oblique line** 3x - y = 2y = mx + b-y = -3x + 2y = 3x - 2X 0  $m_1 = 3$ 

6. The line through (1, -3) perpendicular to 3x - y = 2

oblique line

y = mx + b  $m_2 =$  3x - y = 2-y = -3x + 2

$$y = 3x - 2$$



6. The line through (1, -3) perpendicular to 3x - y = 2

oblique line

y = mx + b  $m_2 = -1/3$  3x - y = 2-y = -3x + 2

$$\mathbf{y} = \mathbf{3}\mathbf{x} - \mathbf{2}$$



6. The line through (1, -3) perpendicular to 3x - y = 2

oblique line

y = mx + b  $m_2 = -1/3$  3x - y = 2-y = -3x + 2

$$\mathbf{y} = \mathbf{3}\mathbf{x} - \mathbf{2}$$



6. The line through (1, -3) perpendicular to 3x - y = 2

oblique line

y = mx + b  $m_2 = -1/3$  3x - y = 2-y = -3x + 2

$$\mathbf{b} = ? \qquad \mathbf{y} = 3\mathbf{x} - 2$$



**6.** The line through (1, -3) perpendicular to 3x - y = 2

JA

**oblique line** 

y = mx + b  

$$m_2 = -1/3$$
  
b = ?  
 $3x - y = 2$   
 $-y = -3x + 2$   
 $y = 3x - 2$ 

 $y - y_1 = m(x - x_1)$  $m_1 = 3$ 



**6.** The line through (1, -3) perpendicular to 3x - y = 2

**oblique line** 

y - -3 =

$$y = mx + b$$
  
 $m_2 = -1/3$ 
 $3x - y = 2$   
 $-y = -3x + 2$ 

$$\mathbf{y} = \mathbf{x} - \mathbf{z}$$

 $\mathbf{y} - \mathbf{y}_1 = \mathbf{m}(\mathbf{x} - \mathbf{x}_1)$ 



**6.** The line through (1, -3) perpendicular to 3x - y = 2

**oblique line** 

h

J

$$y = mx + b$$
  
 $m_2 = -1/3$ 
 $3x - y = 2$   
 $-y = -3x + 2$ 

$$= ? y = 3x - 2$$

$$y - y_1 = m(x - x_1)$$
  $m_1 = 3$   
 $y - -3 = \frac{-1}{3}($ 



**6.** The line through (1, -3) perpendicular to 3x - y = 2

oblique line

$$y = mx + b$$
  
 $m_2 = -1/3$ 
 $3x - y = 2$   
 $-y = -3x + 2$ 

$$y = 3x - 2$$

$$y - y_1 = m(x - x_1)$$
  
 $y - -3 = \frac{-1}{3}(x - 1)$   
 $m_1 = 3$ 



**6.** The line through (1, -3) perpendicular to 3x - y = 2

oblique line

**b** = ?

y

y + 3 =

$$x = mx + b$$
  
 $m_2 = -1/3$ 
 $3x - y = 2$   
 $-y = -3x + 2$ 

$$\mathbf{y} = \mathbf{3}\mathbf{x} - \mathbf{2}$$

y - y<sub>1</sub> = m(x - x<sub>1</sub>) m<sub>1</sub> = 3 y - -3 =  $\frac{-1}{3}$ (x - 1)

**6.** The line through (1, -3) perpendicular to 3x - y = 2

oblique line

 $\mathbf{h} =$ 

y

$$= mx + b$$
  
 $m_2 = -1/3$   
 $3x - y = 2$   
 $-y = -3x + 2$ 

$$y = 3x - 2$$

 $y - y_1 = m(x - x_1)$   $y - -3 = \frac{-1}{3}(x - 1)$  $y + 3 = \frac{-1}{3}x$ 



6. The line through (1, -3) perpendicular to 3x - y = 2

**oblique line** 

**b** = ?

У

$$y = mx + b$$
  
 $m_2 = -1/3$ 
 $3x - y = 2$   
 $-y = -3x + 2$ 

$$\mathbf{y} = 3\mathbf{x} - 2$$

$$y - y_1 = m(x - x_1)$$
  
 $y - -3 = \frac{-1}{3}(x - 1)$   
 $y + 3 = \frac{-1}{3}x + \frac{1}{3}$ 



6. The line through (1, -3) perpendicular to 3x - y = 2

oblique line

- y = mx + b-y = -3x + 2
- $m_2 = -1/3$ b = ? y = 3x - 2
- $y y_1 = m(x x_1)$  $y - -3 = \frac{-1}{3}(x - 1)$



**y** =

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

6. The line through (1, -3) perpendicular to 3x - y = 2

oblique line

- y = mx + b-y = -3x + 2
- $m_2 = -1/3$  b = ?y = 3x - 2
- $y y_1 = m(x x_1)$   $m_1 = 3$

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

31



2

6. The line through (1, -3) perpendicular to 3x - y = 2

**oblique line** 

 $\mathbf{b} =$ 

**y** =

$$y = mx + b$$
  
 $m_2 = -1/3$ 
 $3x - y = 2$   
 $-y = -3x + 2$ 

$$y = 3x - 2$$

$$y - y_1 = m(x - x_1)$$
  $m_1 = 3$ 

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

3

3



6. The line through (1, -3) perpendicular to 3x - y = 2

oblique line3x - y = 2y = mx + b-y = -3x + 2 $m_2 = -1/3$ -y = -3x + 2b = ?y = 3x - 2

 $y - y_1 = m(x - x_1)$   $m_1 = 3$ 

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



- 6. The line through (1, -3) perpendicular to 3x y = 2
- oblique line
   3x y = 2 

   y = mx + b -y = -3x + 2 

    $m_2 = -1/3$  -y = -3x + 2 

   b = ? y = 3x 2 

    $y y_1 = m(x x_1)$   $m_1 = 3$

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

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

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



6. The line through (1, -3) perpendicular to 3x - y = 2



6. The line through (1, -3) perpendicular to 3x - y = 2

