ALGEBRA IS MY DOMAIN ®

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Graphing Lines Using Slope-Intercept Form FOLDABLE

Graphing Linear Functions

Using Slope-Intercept Form

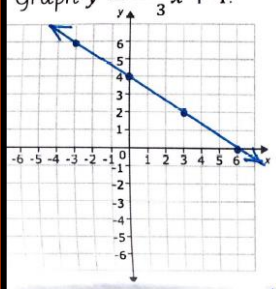
Slope-Intercept Form $y = mx + b$

m: Slope

b: y-intercept

Example:

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



Steps:

1. Identify the slope and y-intercept.

m: $-2/3$ b: 4

2. Plot the y-intercept.
3. Use the slope (rise over run) to determine additional points.

Rise: −2 Run: 3

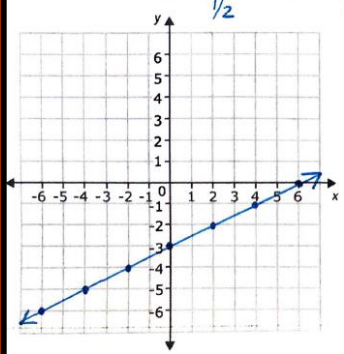
4. Connect the points.

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

Hint: What is the coefficient of x? $1/2$

m: $1/2$ b: −3

Rise: 1 Run: 2



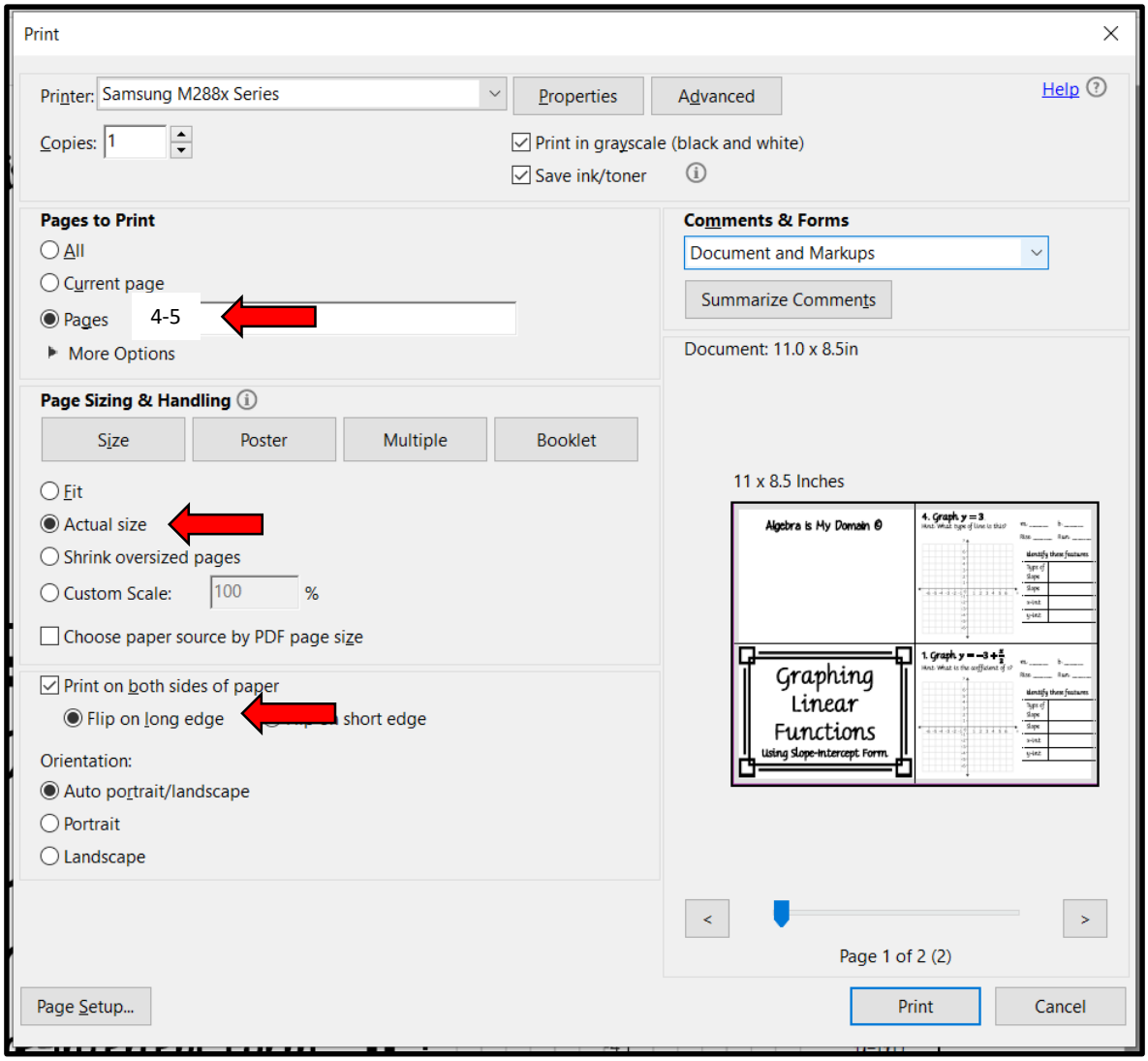
Identify these features.

Type of slope	Positive (Increasing)
Slope	$1/2$
x-int	(6,0)
y-int	(0,−3)

GRAPHING LINEAR FUNCTIONS FOLDABLES Instructions

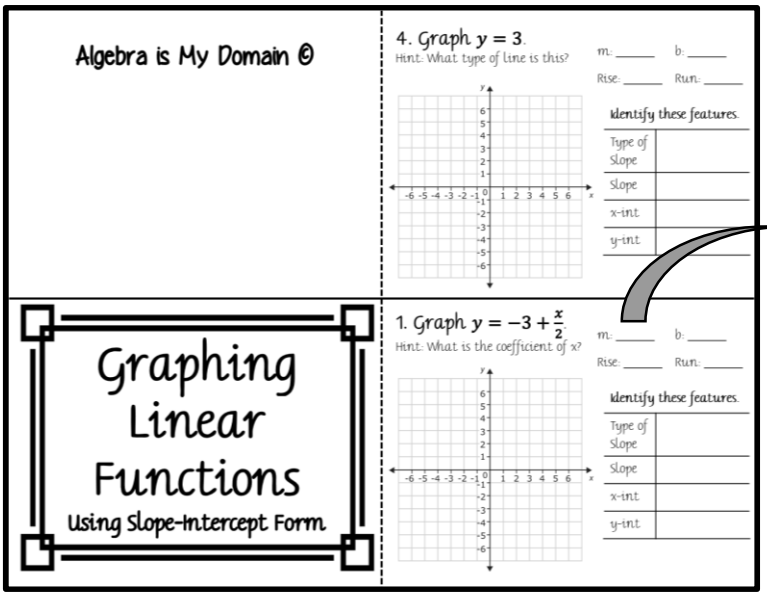
To assemble "Graphing Linear Functions Using Slope-Intercept Form" foldable:

1. Open PDF document
2. Choose print:
   - Change Pages to Print: pages 4-5
   - Changes Page Sizing & Handling: Actual Size
   - Choose Print on Both Sides of Paper – Flip on Long Edge

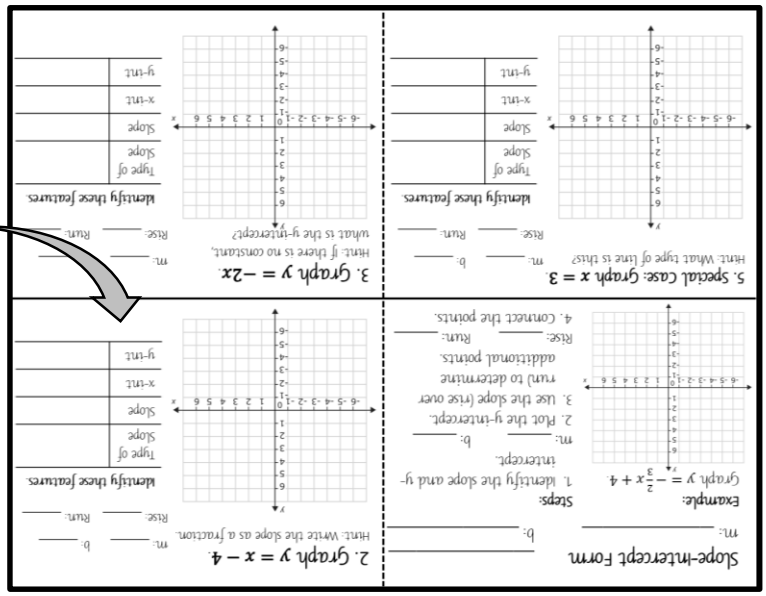


Pages 4 and 5 should print on the same sheet of paper, but flipped.

Page 4

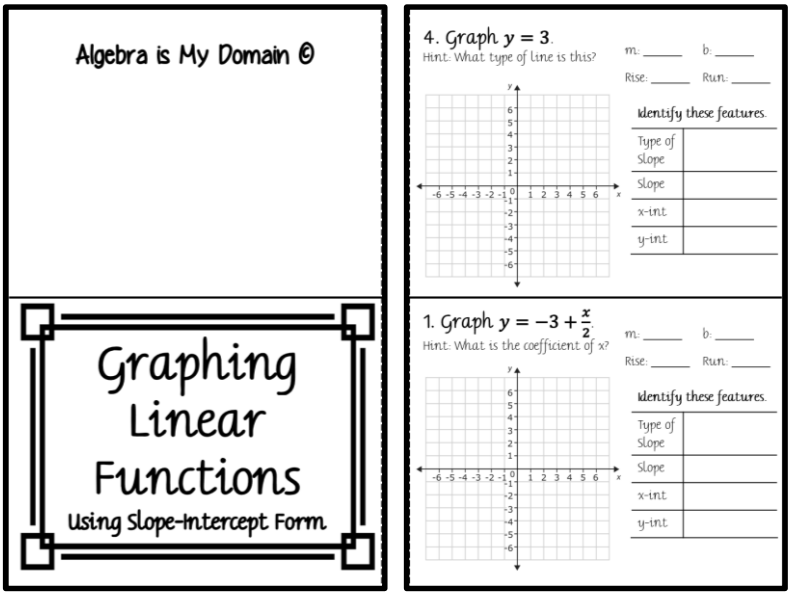


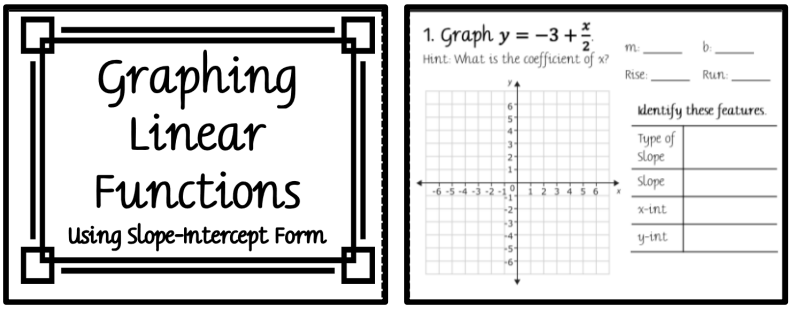
Page 5



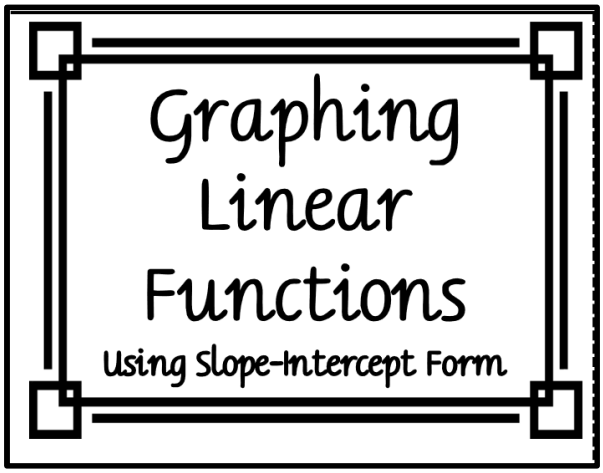
Cut paper in half along the dashed line.

Fold each half along the solid lines.





Insert one sheet into the other. Assemble as shown below.



Algebra is My Domain ©

Graphing Linear Functions

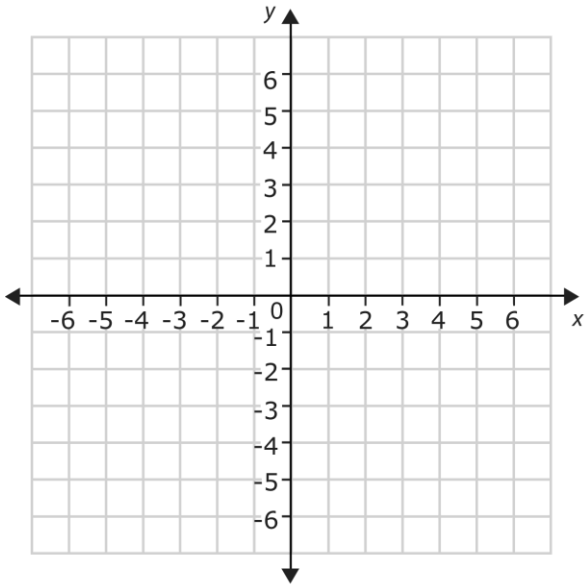
Using Slope-Intercept Form

4. Graph $y = 3$.

Hint: What type of line is this?

m: _____ b: _____

Rise: _____ Run: _____



Identify these features.

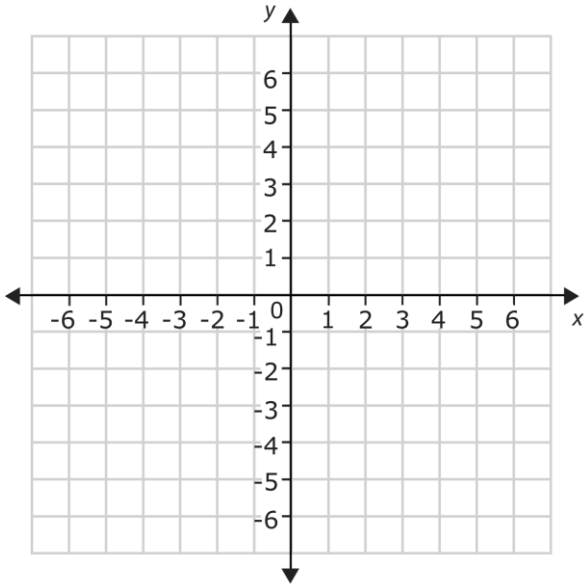
Type of Slope	
Slope	
x-int	
y-int	

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

Hint: What is the coefficient of x?

m: _____ b: _____

Rise: _____ Run: _____



Identify these features.

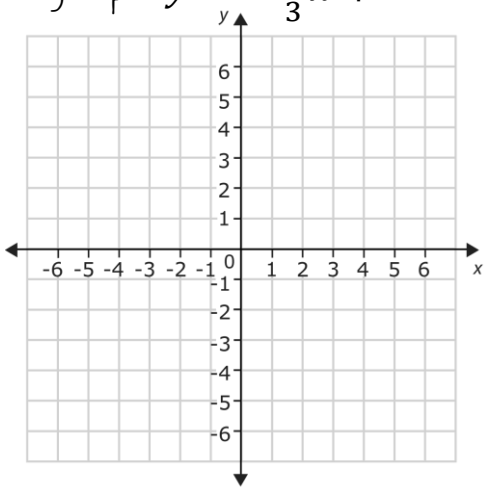
Type of Slope	
Slope	
x-int	
y-int	

Slope-Intercept Form

m: _____ b: _____

Example:

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



Steps:

1. Identify the slope and y-intercept.

m: _____ b: _____

2. Plot the y-intercept.
3. Use the slope (rise over run) to determine additional points.

Rise: _____ Run: _____

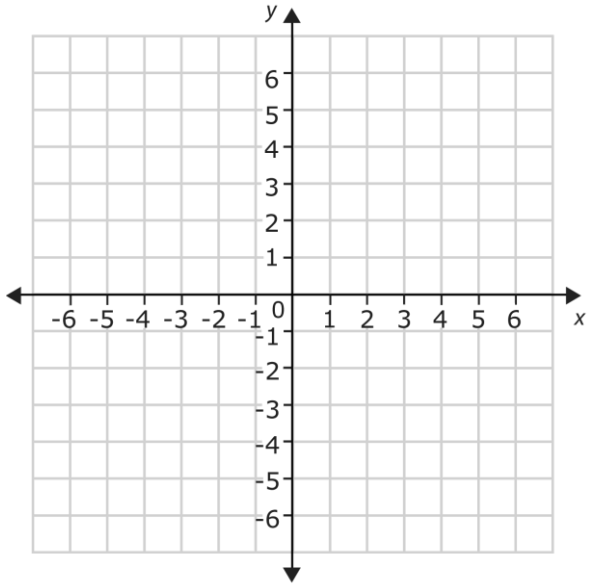
4. Connect the points.

2. Graph $y = x - 4$.

Hint: Write the slope as a fraction.

m: _____ b: _____

Rise: _____ Run: _____



Identify these features.

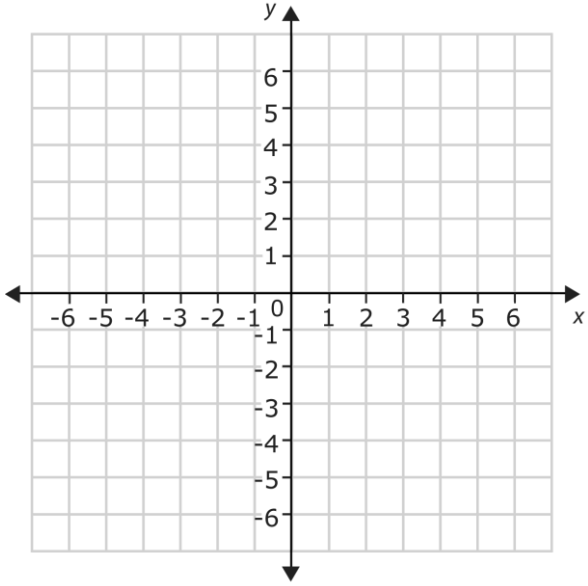
Type of Slope	
Slope	
x-int	
y-int	

5. Special Case: Graph $x = 3$.

Hint: What type of line is this?

m: _____ b: _____

Rise: _____ Run: _____



Identify these features.

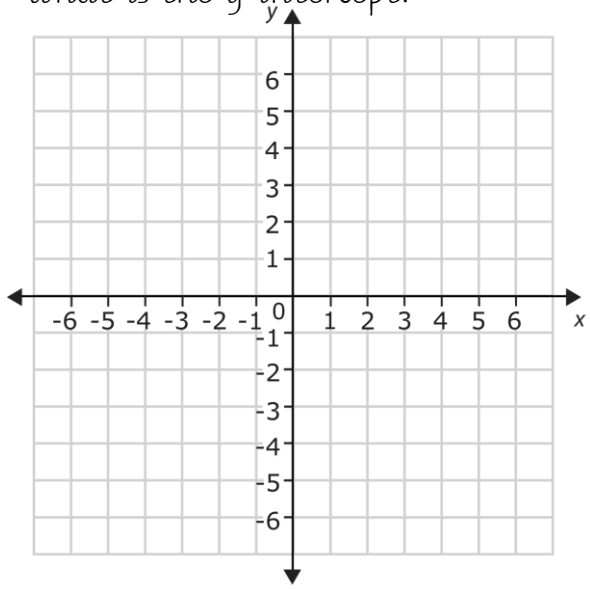
Type of Slope	
Slope	
x-int	
y-int	

3. Graph $y = -2x$.

Hint: If there is no constant, what is the y-intercept?

m: _____ b: _____

Rise: _____ Run: _____



Identify these features.

Type of Slope	
Slope	
x-int	
y-int	

Slope-Intercept Form

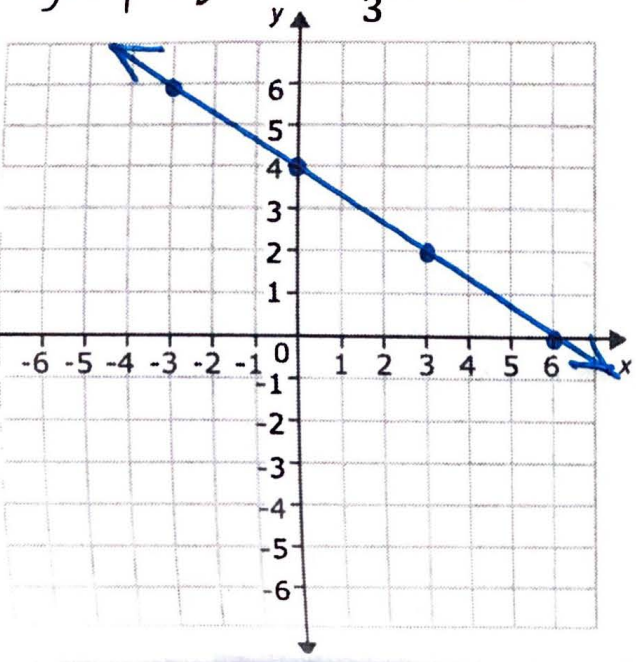
$y = mx + b$

m: slope

b: y-intercept

Example:

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



Steps:

1. Identify the slope and y-intercept.

m: $-2/3$ b: 4

2. Plot the y-intercept.
3. Use the slope (rise over run) to determine additional points.

Rise: -2 Run: 3

4. Connect the points.

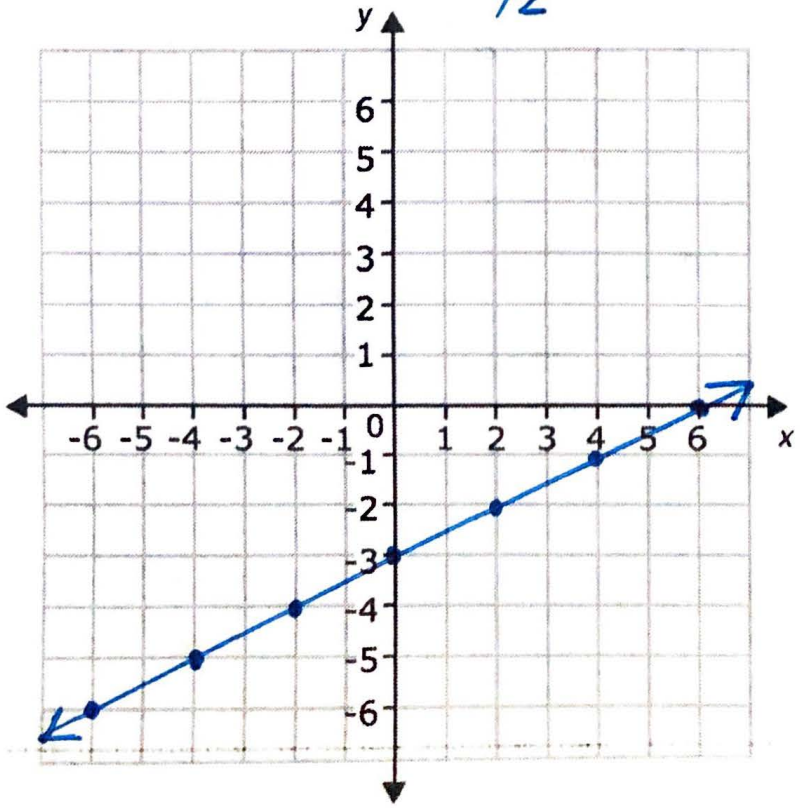
1. Graph $y = -3 + \frac{1}{2}x$.

Hint: What is the coefficient of x?

$1/2$

m: $1/2$ b: -3

Rise: 1 Run: 2



Identify these features.

Type of Slope	Positive (Increasing)
Slope	$1/2$
x-int	(6, 0)
y-int	(0, −3)

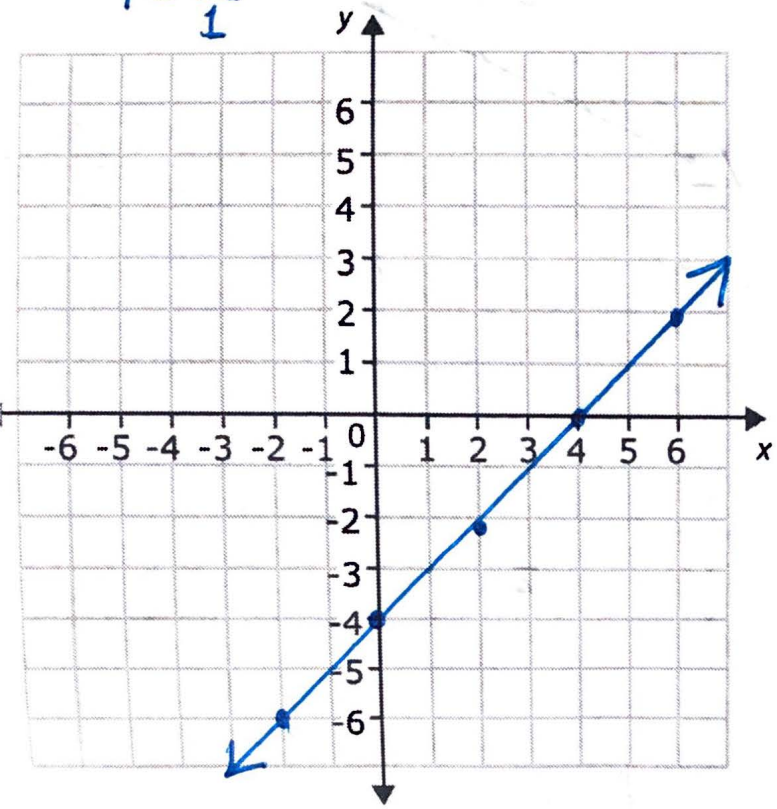
2. Graph $y = x - 4$.

Hint: Write the slope as a fraction.

$1 = \frac{1}{1}$

m: $\frac{1}{1}$ b: -4

Rise: 1 Run: 1



Identify these features.

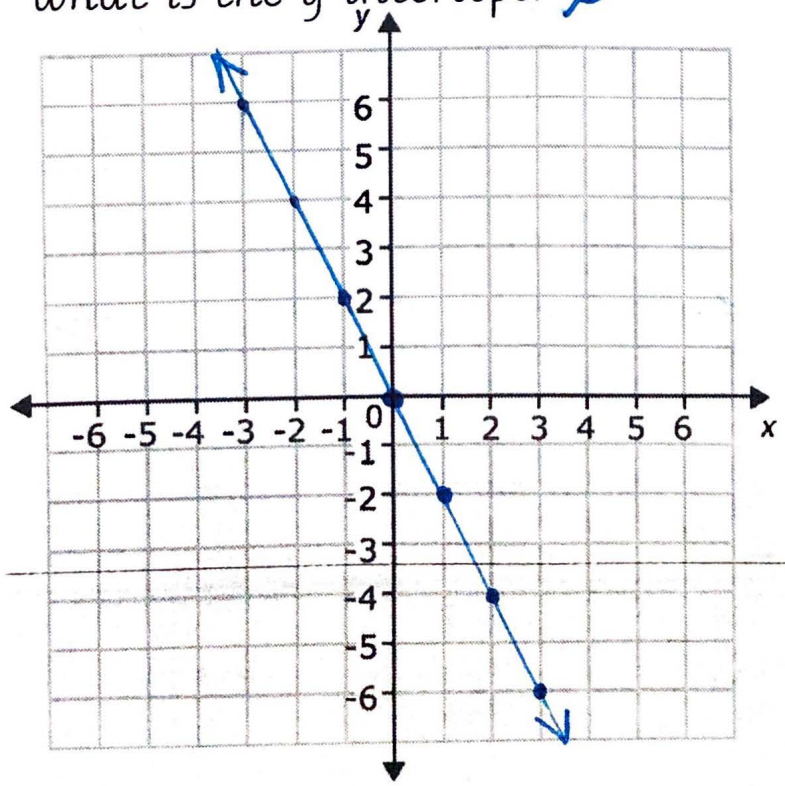
Type of Slope	Positive (Increasing)
Slope	1
x-int	(4,0)
y-int	(0,-4)

3. Graph $y = -2x$.

Hint: If there is no constant, what is the y-intercept? ∅

m: $\frac{-2}{1}$ b: 0

Rise: -2 Run: 1



Identify these features.

Type of Slope	Negative (Decreasing)
Slope	-2
x-int	(0,0)
y-int	(0,0)

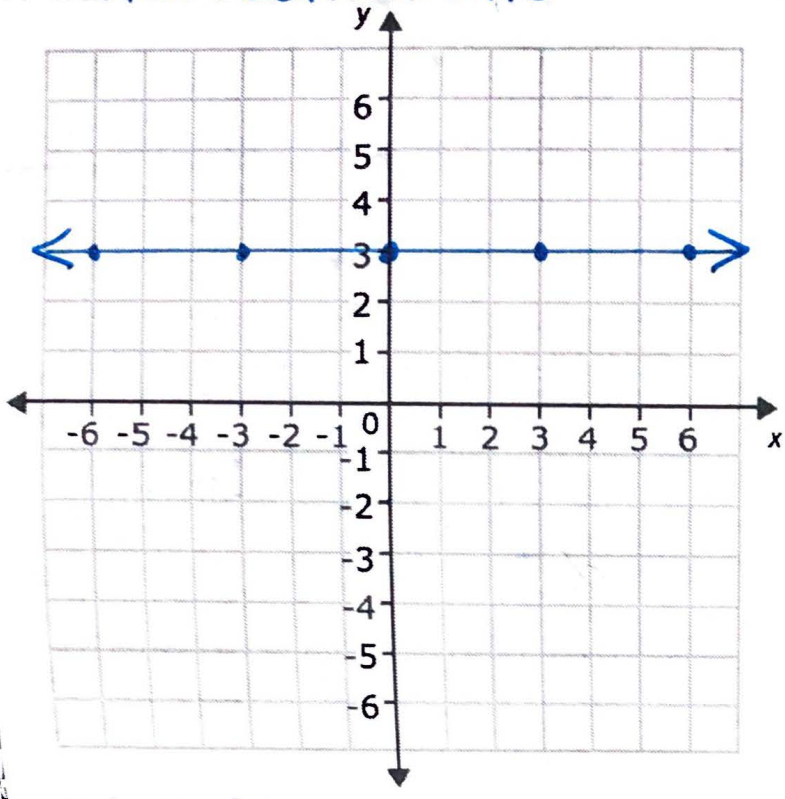
4. Graph $y = 3$. y=mx+b

Hint: What type of line is this?

Horizontal line

m: 0 b: 3

Rise: 0 Run: ↔



Identify these features.

Type of Slope	Zero (Horizontal)
Slope	0
x-int	None
y-int	(0,3)

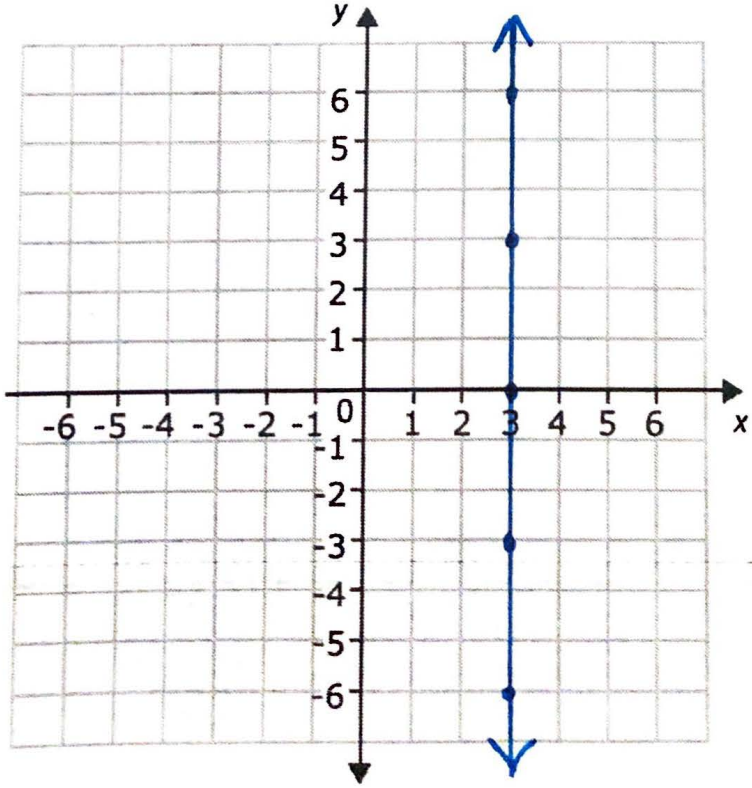
5. Special Case: Graph $x = 3$.

Hint: What type of line is this?

Vertical line

m: und. b: None

Rise: ↕ Run: 0



Identify these features.

Type of Slope	Undefined (Vertical)
Slope	Undefined
x-int	(3,0)
y-int	None