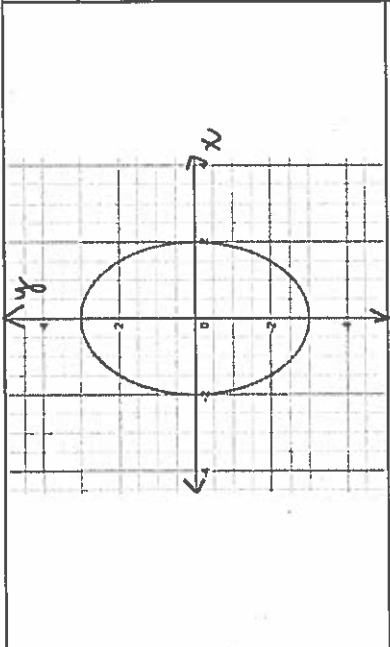
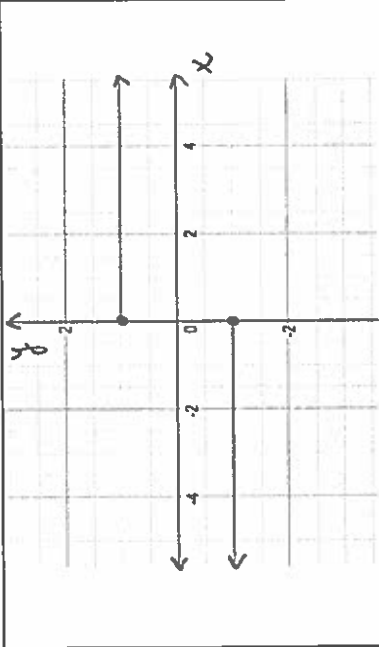
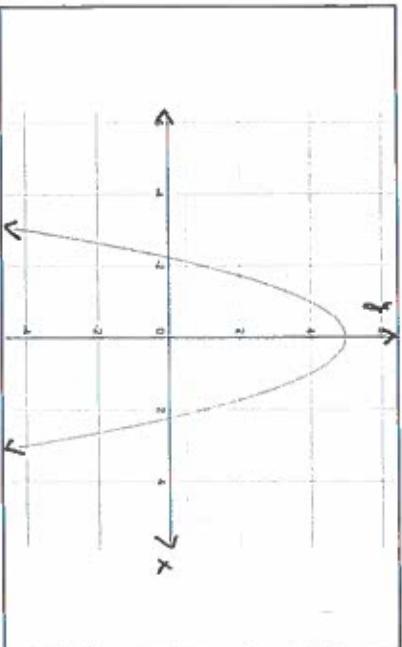
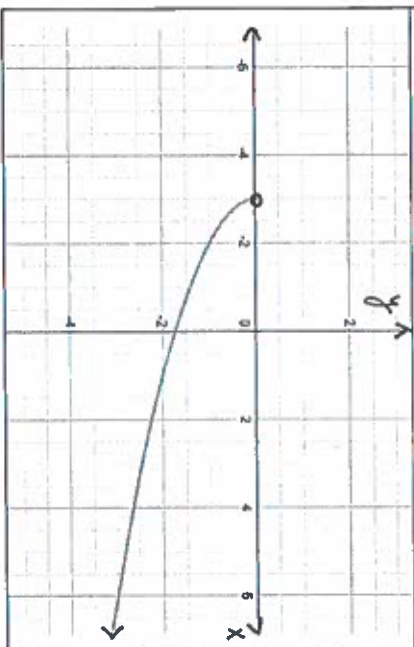


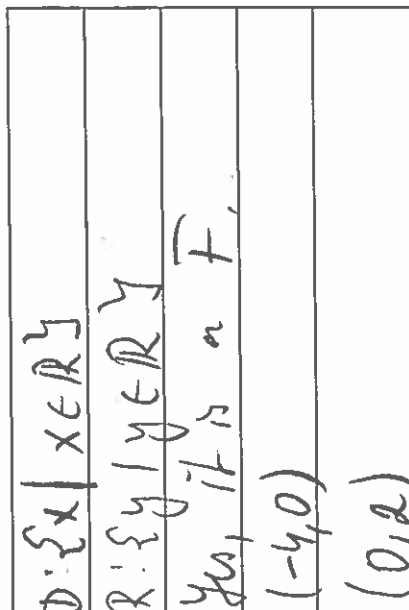
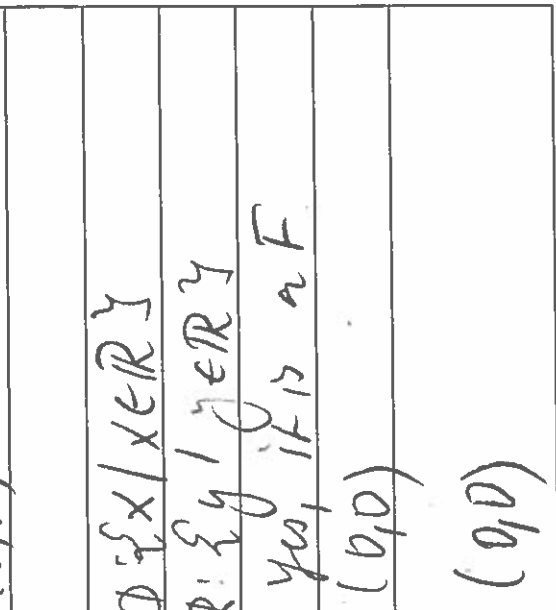
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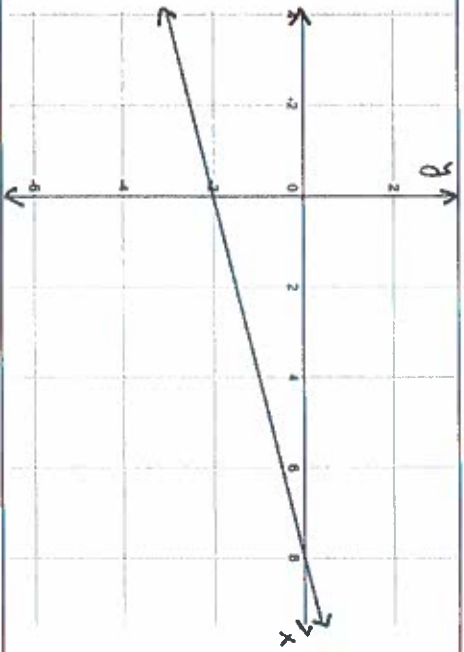
Relations, Functions, Domain, Range and Linear Function  
In-Class Assignment

- Using the set notation, describe the domain and range of each relation. Determine whether the given relation is a function. If the relation has x-intercept(s) and y-intercept(s), give their exact coordinates.

	<p>Domain <math>D: \{x \mid -2 \leq x \leq 2, x \in \mathbb{R}\}</math></p> <p>Range <math>R: \{y \mid -3 \leq y \leq 3, y \in \mathbb{R}\}</math></p> <p>Is the given relation a function? Not a F</p> <p>x-intercept(s) <math>(-2, 0)</math> and <math>(2, 0)</math></p> <p>y-intercept(s) <math>(0, -3)</math> and <math>(0, 3)</math></p>
	<p>Domain <math>D: \{x \mid x \in \mathbb{R}\}</math></p> <p>Range <math>R: \{y \mid y = 1, y = -1\}</math></p> <p>Is the given relation a function? Not a F</p> <p>x-intercept(s) None</p> <p>y-intercept(s) <math>(0, -1)</math> and <math>(0, 1)</math></p>

	<p>Domain</p> <p>Range</p> <p>Is the given relation a function?</p> <p>x-intercept(s)</p> <p>y-intercept(s)</p>	<p><math>D: \{x \mid x \in \mathbb{R}\}</math></p> <p><math>R: \{y \mid y \leq 5, y \in \mathbb{R}\}</math></p> <p>Yes, it is a F</p> <p><math>(-2.25, 0)</math> and <math>(2.25, 0)</math></p> <p><math>(0, 5)</math></p>
	<p>Domain</p> <p>Range</p> <p>Is the given relation a function?</p> <p>x-intercept(s)</p> <p>y-intercept(s)</p>	<p><math>D: \{x \mid x &gt; -3, x \in \mathbb{R}\}</math></p> <p><math>R: \{y \mid y &lt; 0, y \in \mathbb{R}\}</math></p> <p>yes, it is a F</p> <p>none</p> <p><math>(0, -1.75)</math></p>

	<p>Domain</p> <p>Range</p> <p>Is the given relation a function?</p> <p>x-intercept(s)</p> <p>y-intercept(s)</p>	<p><math>D: \{x \mid x \in \mathbb{R}\}</math></p> <p><math>R: \{y \mid y \in \mathbb{R}\}</math></p> <p>Yes, it is a F.</p> <p><math>(-4, 0)</math></p> <p><math>(0, 2)</math></p>
	<p>Domain</p> <p>Range</p> <p>Is the given relation a function?</p> <p>x-intercept(s)</p> <p>y-intercept(s)</p>	<p><math>D: \{x \mid x \in \mathbb{R}\}</math></p> <p><math>R: \{y \mid y \in \mathbb{R}\}</math></p> <p>Yes, it is a F.</p> <p><math>(0, 0)</math></p> <p><math>(0, 0)</math></p>



Domain

$D: \{x \mid x \in \mathbb{R}\}$

Range

$R: \{y \mid y \in \mathbb{R}\}$

Is the given relation a function?

yes, it is a function.

x-intercept(s)

$(-2, 0)$

y-intercept(s)

$(0, -2)$

$y$

Domain

$D: \{x \mid x \in \mathbb{R}\}$

Range

$R: \{y \mid y = -3\}$

Is the given relation a function?

yes, it is a function

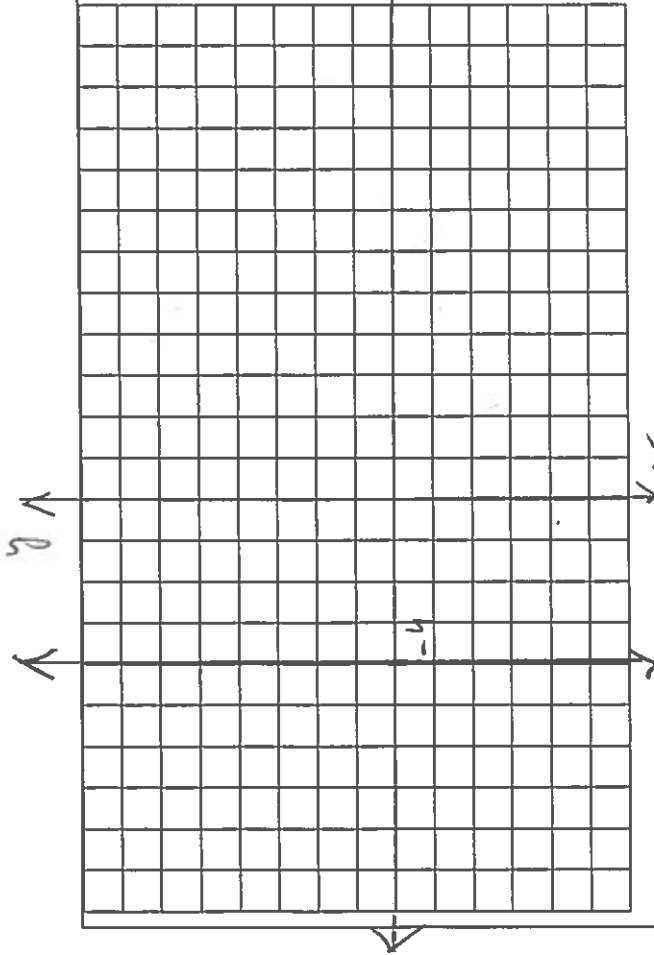
x-intercept(s)

none

y-intercept(s)

$(0, -3)$



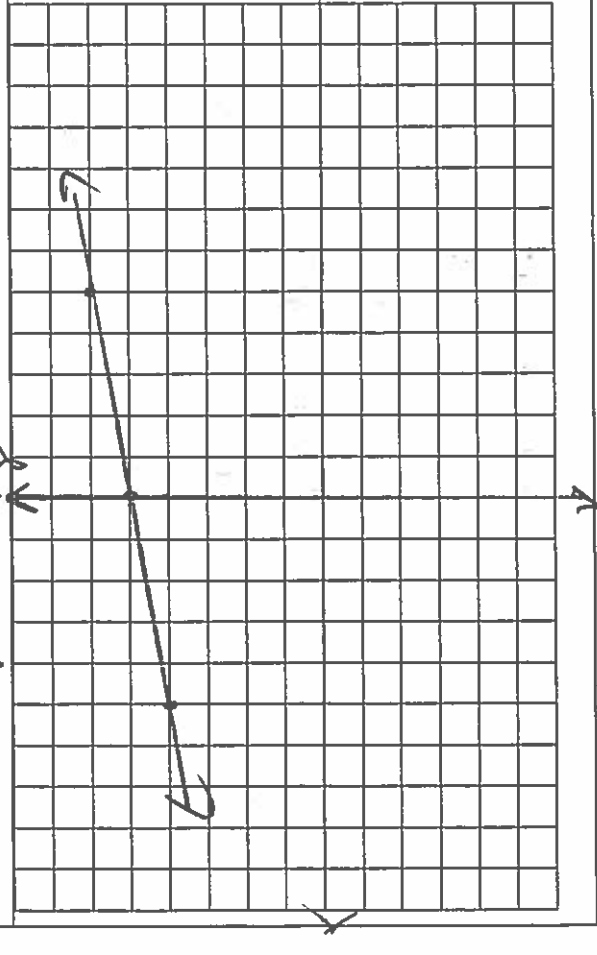


Equation:  $x = -4$

y-intercept: none

Slope: undefined (infinite)

End behavior:  $\rightarrow x$  vertical line

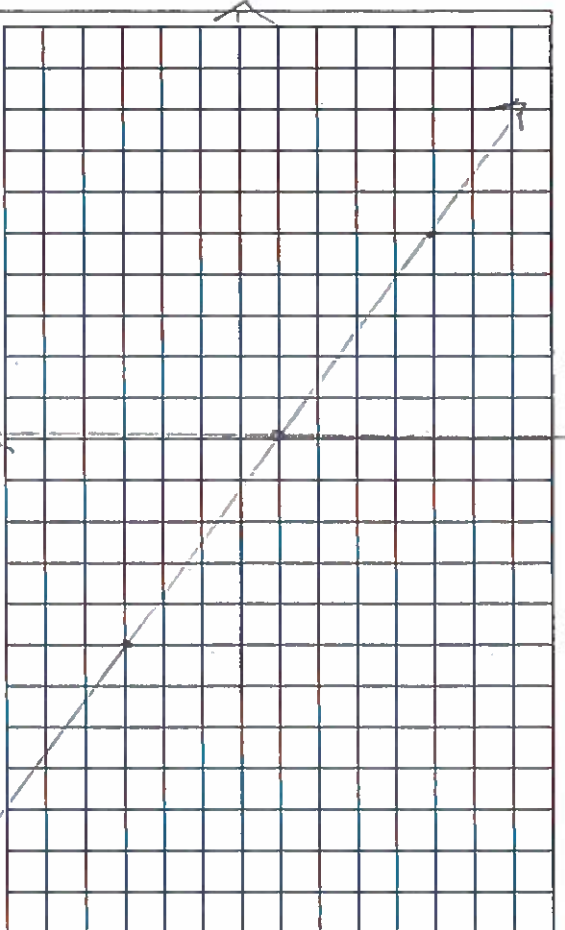


Equation:  $y = \frac{1}{5}x + 6$

y-intercept:  $(0, 6)$

Slope:  $\frac{1}{5}$

End behavior:  $\rightarrow x$  increasing

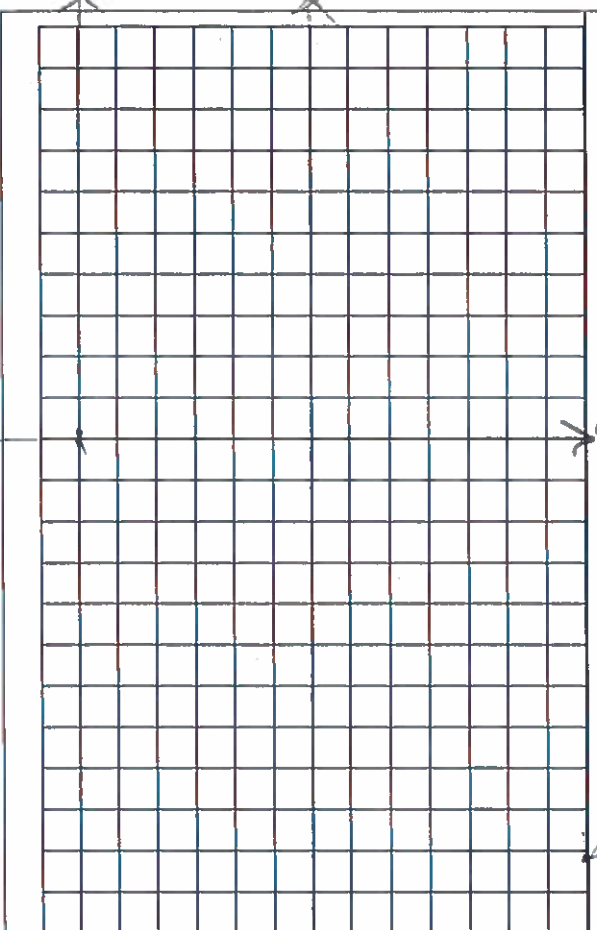


Equation:  $y = -\frac{4}{5}x + 1$

y-intercept:  $(0, 1)$

Slope:  $-\frac{4}{5}$

End behavior: decreasing



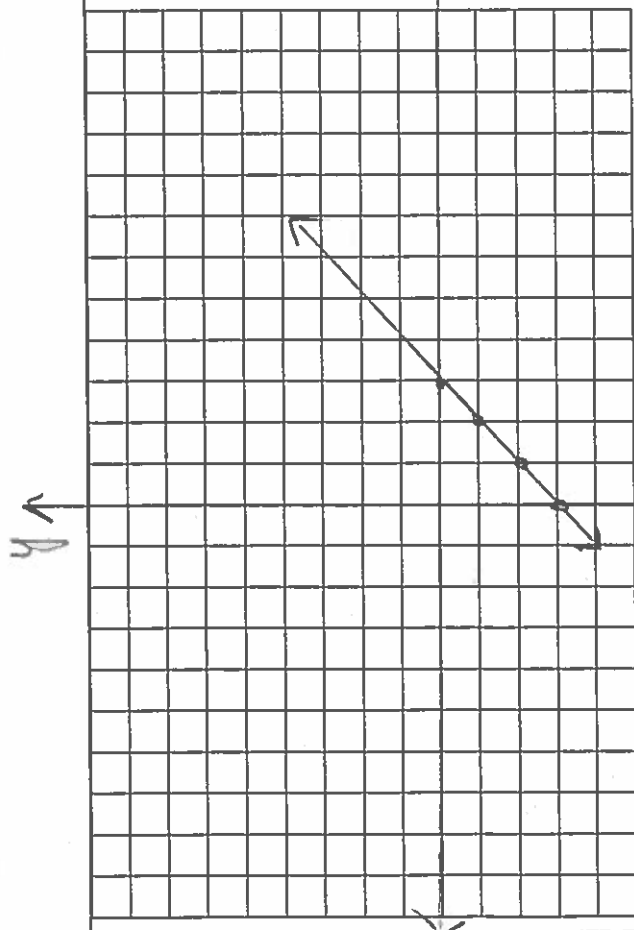
Equation:  $y = -6$

y-intercept:  $(0, -6)$

Slope:  $0$

End behavior: constant

flat  
not increasing nor decreasing  
horizontal line



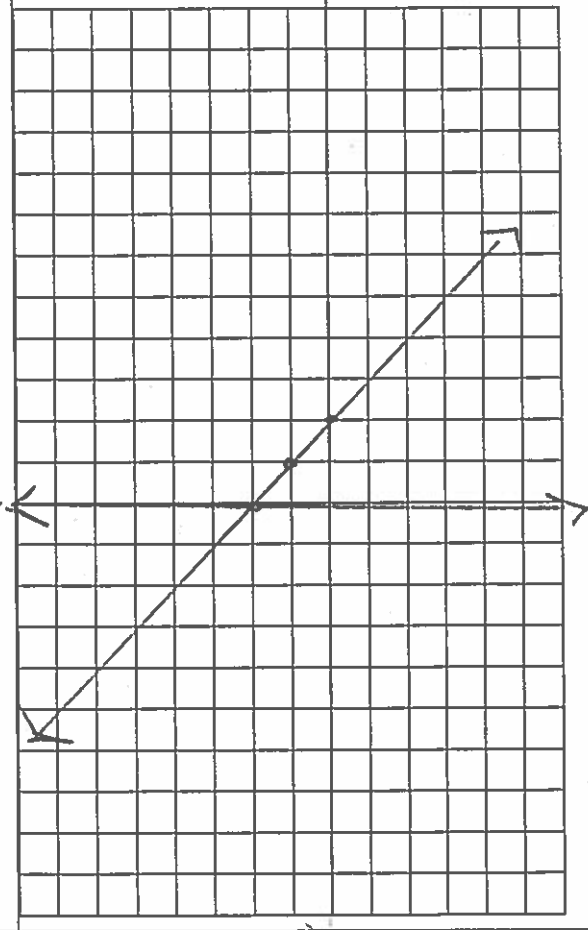
Equation:  $y = x - 3$

y-intercept:  $(0, -3)$

Slope:  $\frac{1}{1}$  or  $1$

increasing

x



Equation:  $y = -x + 2$

y-intercept:  $(0, 2)$

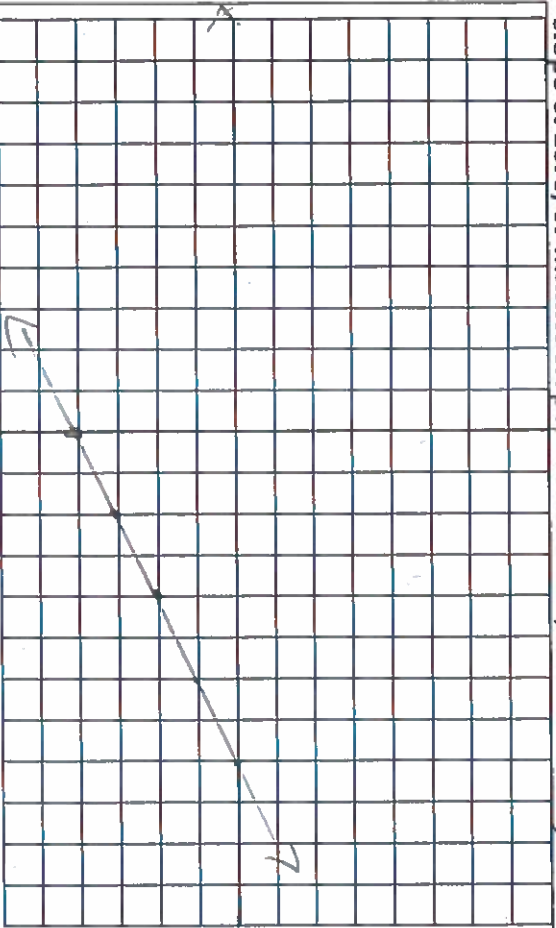
Slope:  $-1$  or  $-\frac{1}{1}$

End behavior:

x

decreasing

2. Graph the given line and state the coordinates of the y-intercept, the slope and end behavior (increasing, decreasing, constant - slope of zero, or infinite slope - vertical line, not a function).

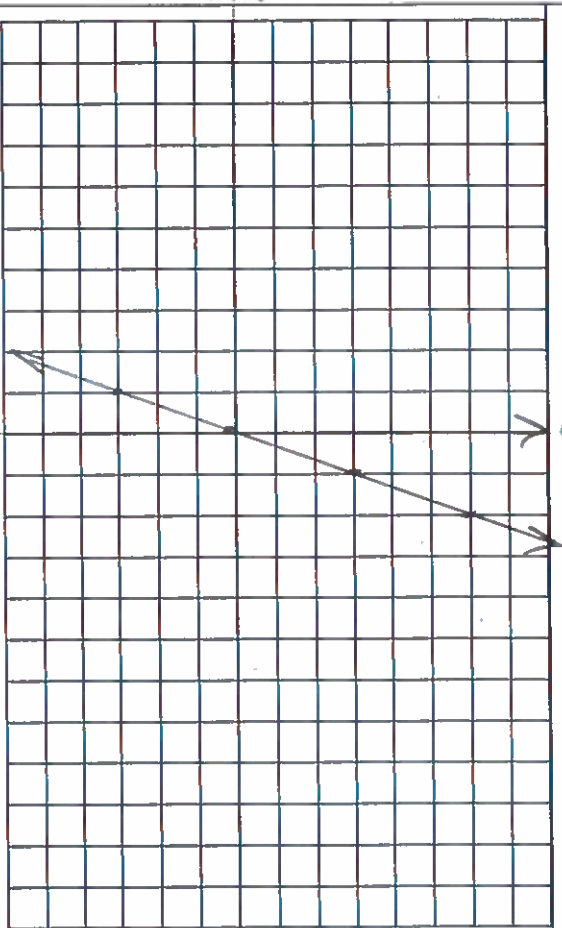


Equation:  $y = 0.5x - 4$

y-intercept:  $(0, -4)$

Slope:  $\frac{1}{2}$

End behavior: increasing



Equation:  $y = 3x + 0$

y-intercept:  $(0, 0)$

Slope: 3  $(\frac{3}{1})$

End behavior: increasing