Algebra 1 3.6 $y = kx$

Write an equation for a proportional relationship

Write an equation for a nonproportional relationship

linear $y = mx + B$

m slope

K constant of variation

y-intercept

directly proportional

proportional

nonproportional

whiteboards(?)

Quiz
3.4-3.5-3.6 is
Mon.

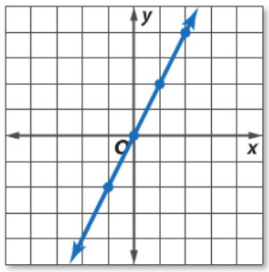
KeyConcept Proportional Relationship

Words

A relationship is proportional if its equation is of the form $y = kx$, $k \neq 0$. The graph passes through (0, 0).

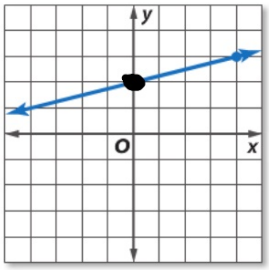
$m = \frac{2}{1}$

5



$y = 2x$

8.



$m = \frac{1}{4}$

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

2 Nonproportional Relationships Some linear equations can represent a nonproportional relationship. If the ratio of the value of x to the value of y is different for select ordered pairs that are on the line, the equation is nonproportional and the graph will not pass through (0, 0).

$$y = 2x + 3$$

GuidedPractice

2. Write an equation in function notation for the relation shown in the table.

A.

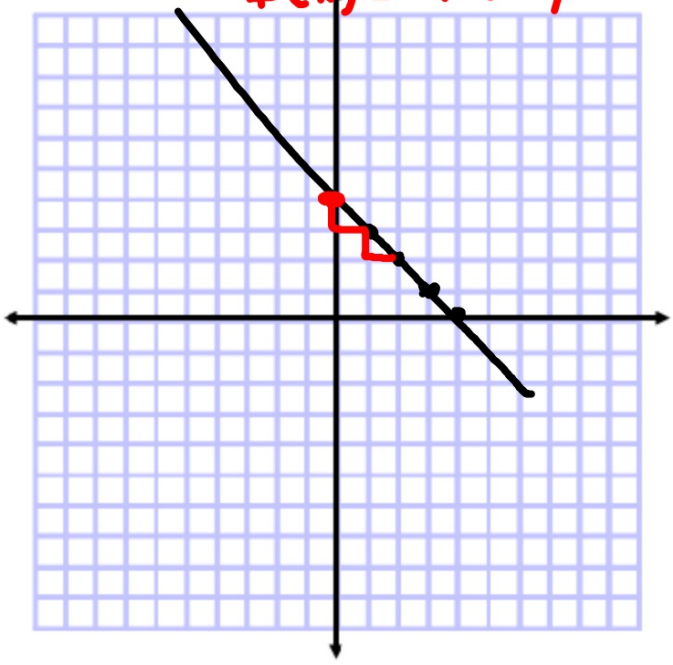
x	1	2	3	4
y	3	2	1	0

1	3
2	2
3	1
4	0

$m = -\frac{1}{1}$

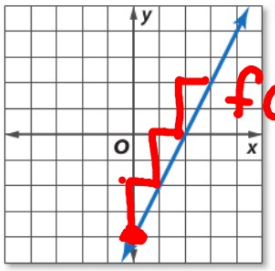
$y = -1x + 4$

$f(x) = -1x + 4$



Whiteboards

B. Write an equation in function notation for the graph.

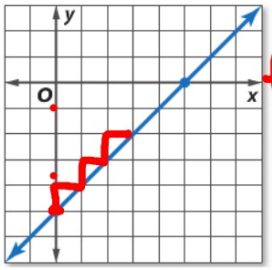


$f(x) = 2x - 4$

$f(x) = 2x + -4$

Write an equation in function notation

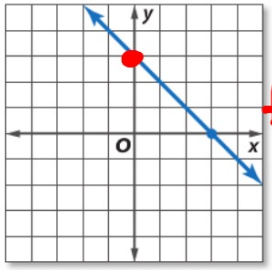
2.



$f(x) = 1x - 5$

$f(x) = 1x + -5$

$= x + -5$

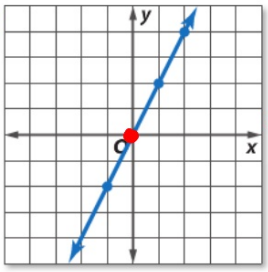
3. 

$f(x) = -1x + 3$

$f(x) = -x + 3$

Write an equation in function notation

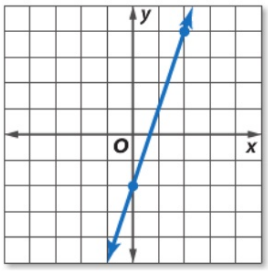
5



$f(x) = 2x + 0$

$f(x) = 2x$

7.



2, 7, 12 proportional?

no

n	a_n
1	2
2	7
3	12

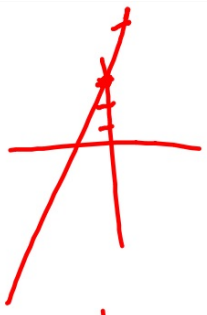
eqtn.

$a_n = a_1 + (n-1)d$

$a_n = 2 + (n-1)\cdot 5$

$a_n = 2 + 5n - 5$

$a_n = 5n - 3$ $\quad 5n + -3$



7, 11, 15

1	7
2	11
3	15

$y = \frac{4}{1}$

$a_n = 7 + (n-1) \cdot 4$

$= 7 + 4n - 4$

$a_n = 4n + 3$

$y = 4x + 3$

WB prac.