

Algebra 1 3.6

Write an equation for a proportional relationship

Write an equation for a nonproportional relationship

linear

slope

constant of variation

y-intercept

directly proportional

proportional

nonproportional

whiteboards(?)

$$y = k \cdot x$$
$$y = m \cdot x + b$$

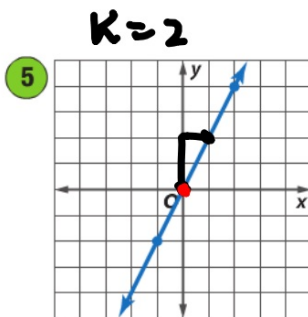
Quiz 3.4

3.5-3.6 Tues.

KeyConcept Proportional Relationship

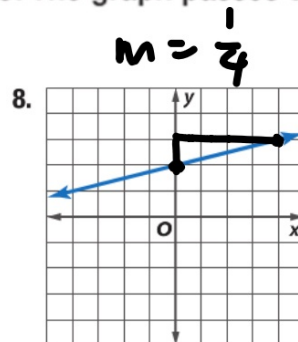
Words

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



$$y = 2x$$

$$f(x) = 2x$$



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

$$f(x) = \frac{1}{4}x + 2$$

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 $(0, 0)$.

Guided Practice

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

A.

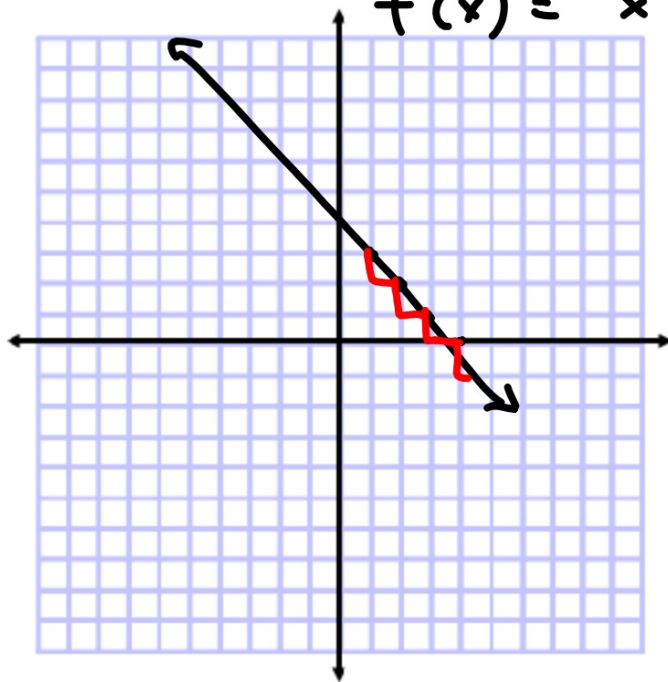
x	1	2	3	4
y	3	2	1	0

1	3
2	2
3	1
4	0

$$m = -1$$

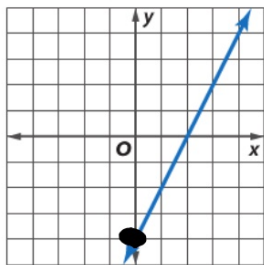
$$y = -x + 4$$

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



Whiteboards

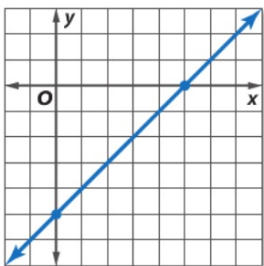
- B. Write an equation in function notation for the graph.
-



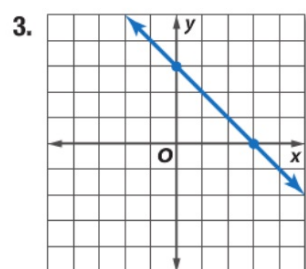
$$f(x) = 2x + -4$$

Write an equation in function notation

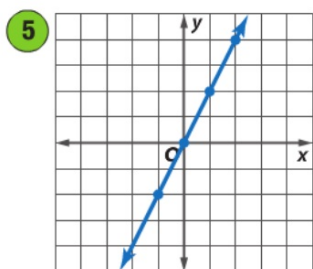
2.



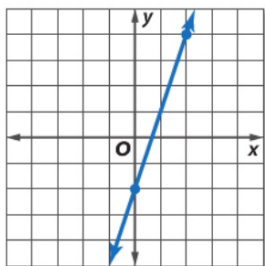
$$y =$$
$$f(x) =$$



Write an equation in function notation



7.



$$y = mx + B$$

rate
of
change
↓
start
↓

$$y = 100,000x + 2,000,000$$

$$\text{games} = 100,000(\text{day}) + 2,000,000$$

WB 3.6 (pr.)
p. 46 1-8