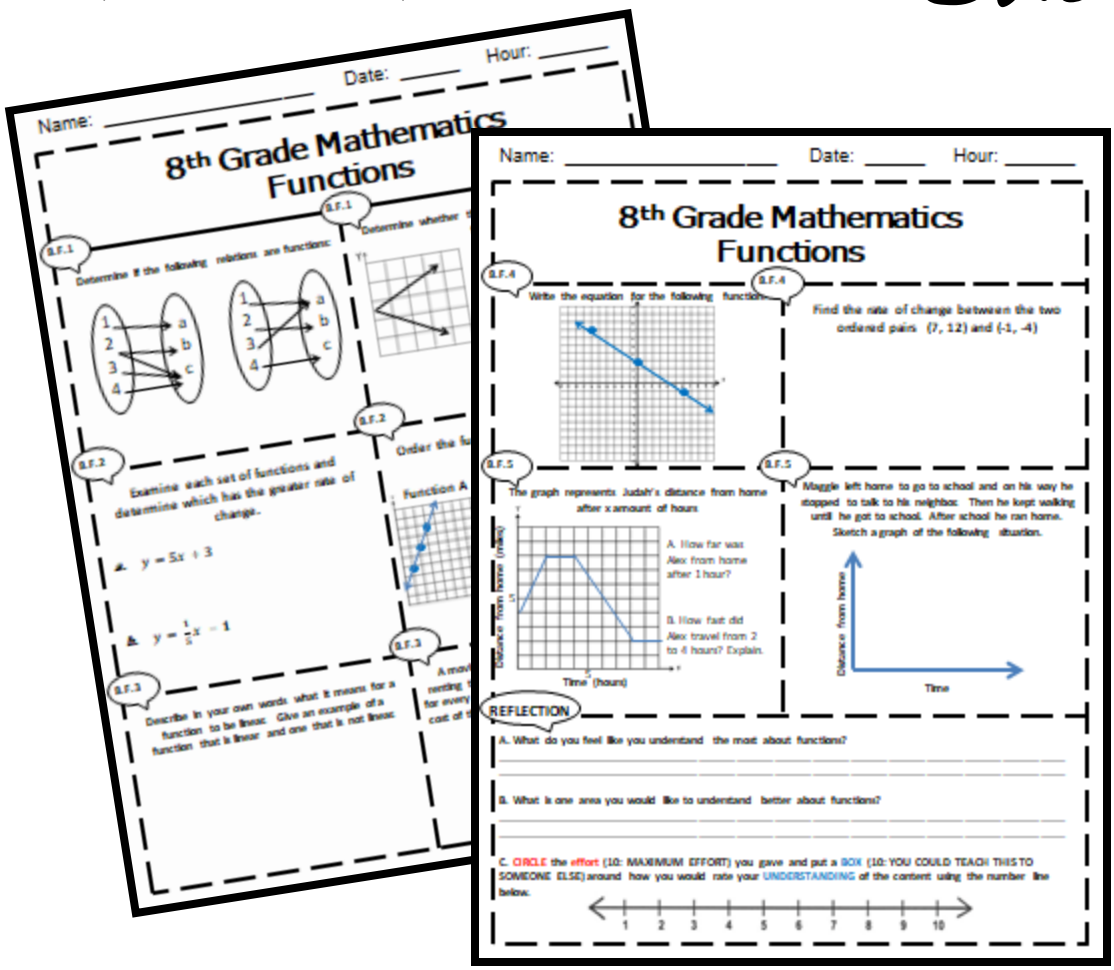
Grade 8

Functions

Exam



2 QUESTIONS PER STANDARD

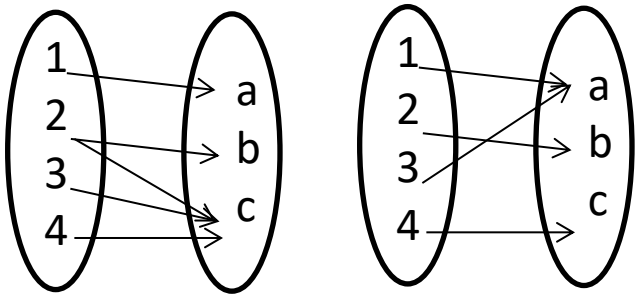
By: Math in the Midwest

Name: _____ Date: _____ Hour: _____

8th Grade Mathematics Functions

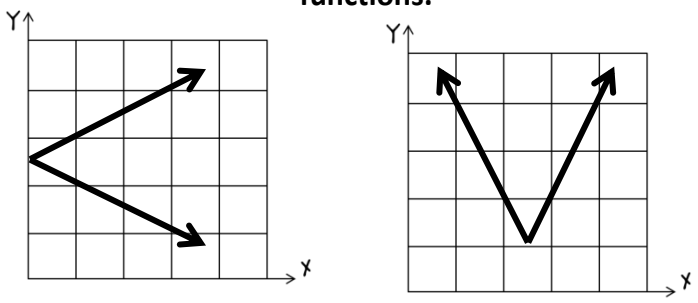
8.F.1

Determine if the following relations are functions:



8.F.1

Determine whether the following graphs represent functions.



8.F.2

Examine each set of functions and determine which has the greater rate of change.

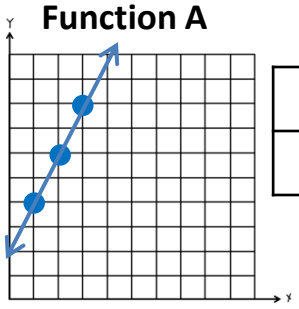
a. $y = 5x + 3$

b. $y = \frac{1}{5}x - 1$

8.F.2

Order the functions from least to greatest rate of change

Function A



Function B

x	0	1	2
y	3	6	9

Function C

$y = \frac{1}{4}x + 3$

8.F.3

Describe in your own words what it means for a function to be linear. Give an example of a function that is linear and one that is not linear.

8.F.3

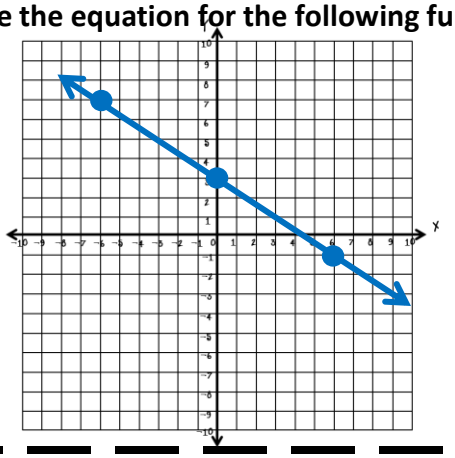
A moving rental company charges a $30 fee for renting the moving truck on a daily basis and $0.08 for every mile driven. Write an equation to model the cost of the car on a daily basis for the linear function.

Name: _____ Date: _____ Hour: _____

8th Grade Mathematics Functions

8.F.4

Write the equation for the following function:

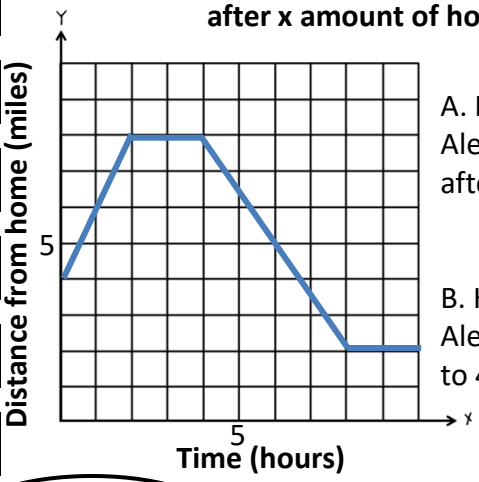


8.F.4

Find the rate of change between the two ordered pairs (7, 12) and (-1, -4)

8.F.5

The graph represents Judah's distance from home after x amount of hours



A. How far was Alex from home after 1 hour?

B. How fast did Alex travel from 2 to 4 hours? Explain.

8.F.5

Maggie left home to go to school and on his way he stopped to talk to his neighbor. Then he kept walking until he got to school. After school he ran home. Sketch a graph of the following situation.

REFLECTION

A. What do you feel like you understand the most about functions?

_____

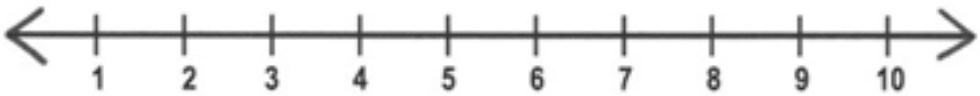
_____

B. What is one area you would like to understand better about functions?

_____

_____

C. CIRCLE the effort (10: MAXIMUM EFFORT) you gave and put a BOX (10: YOU COULD TEACH THIS TO SOMEONE ELSE) around how you would rate your UNDERSTANDING of the content using the number line below.

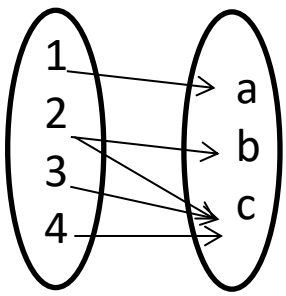


Name: _____ Date: _____ Hour: _____

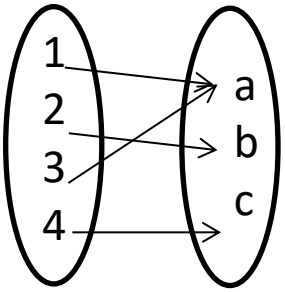
8th Grade Mathematics Functions

8.F.1

Determine if the following relations are functions:



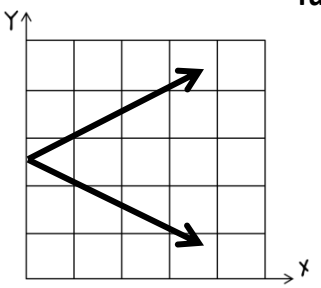
Not a function



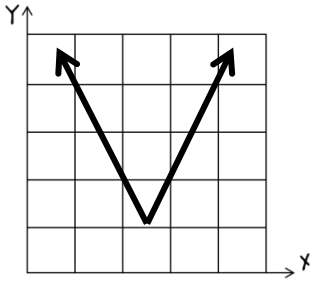
Function

8.F.1

Determine whether the following graphs represent functions.



Not a function



Function

8.F.2

Examine each set of functions and determine which has the greater rate of change.

a. $y = 5x + 3$

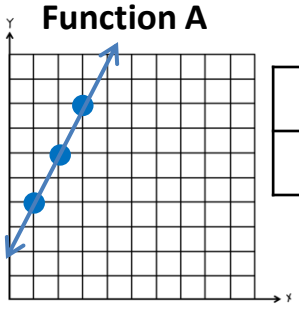
b. $y = \frac{1}{5}x - 1$

Function A has a greater rate of change

8.F.2

Order the functions from least to greatest rate of change

Function A



Function B

x	0	1	2
y	3	6	9

Function C

$y = \frac{1}{4}x + 3$

C, A, B

8.F.3

Describe in your own words what it means for a function to be linear. Give an example of a function that is linear and one that is not linear.

Answers will vary

8.F.3

A moving rental company charges a $30 fee for renting the moving truck on a daily basis and $0.08 for every mile driven. Write an equation to model the cost of the car on a daily basis for the linear function.

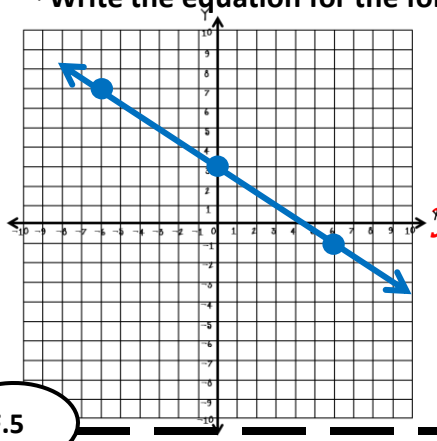
$y = 0.08x + 30$

Name: _____ Date: _____ Hour: _____

8th Grade Mathematics Functions

8.F.4

Write the equation for the following function:



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

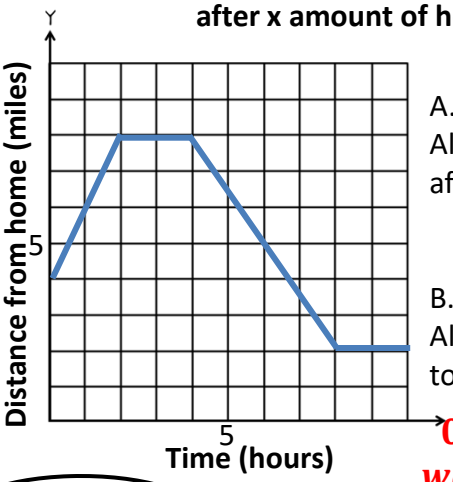
8.F.4

Find the rate of change between the two ordered pairs (7, 12) and (-1, -4)

Rate of Change: 2

8.F.5

The graph represents Judah's distance from home after x amount of hours



A. How far was Alex from home after 1 hour?

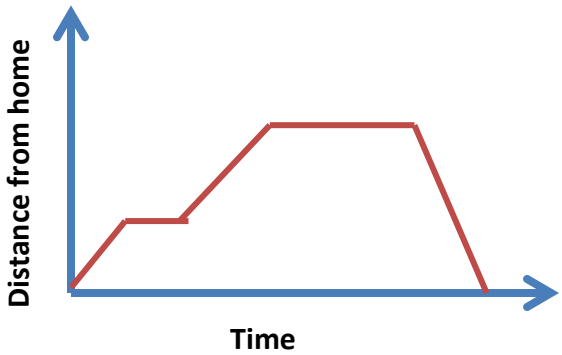
6 miles

B. How fast did Alex travel from 2 to 4 hours? Explain.

0 mph, he was not moving

8.F.5

Maggie left home to go to school and on his way he stopped to talk to his neighbor. Then he kept walking until he got to school. After school he ran home. Sketch a graph of the following situation.



REFLECTION

A. What do you feel like you understand the most about functions?

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B. What is one area you would like to understand better about functions?

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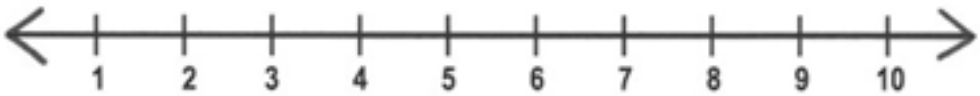

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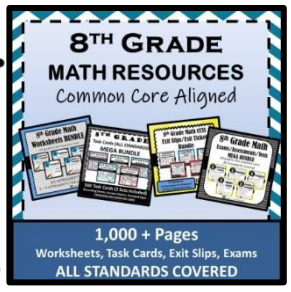

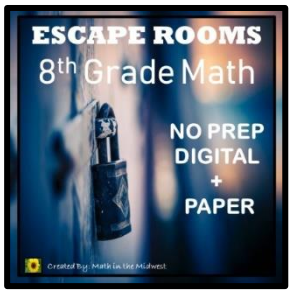

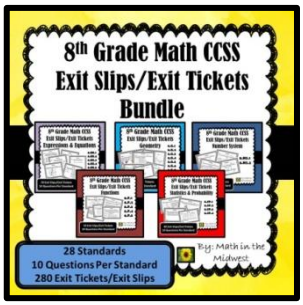

Credit & many thanks to:

Morpho

the Enlightened Elephant