

## Check Unit 1 Extension Worksheet

The distance a delivery van is from the warehouse varies throughout the day. The graph shows the distance from the warehouse for a day from 8:00 am to 5:00 pr


Time (hours)
Segment 1 shows that the delivery van moved away from the warehouse. What does segment 2 show?

The truck moves away from the warehouse but at a slower speed


Time (hours)
(B) Based on the time frame, what change in the distance from the warehouse is represented by segment 6 ?

It's the time when the truck starts to return home.
(C) Which line segments show intervals where the distance did not change?

3,5 , and 7



## Game: "Guess My Rule"

- I am thinking of a rule in my head.
- I will call on somebody to give me an input.
- I will use my rule to figure out the output, then tell you.
- Your job is to figure out the rule I am thinking of. When you think you know it, raise your hand.



## Would this be a fair rule?



| Would this be a fair rule? |  |
| :--- | :--- |
| $\frac{\text { Input }}{10}$ | $\frac{\text { Output }}{45}$ |
| 7 | 19.5 |
| 3 | -0.5 |
| 6 | 13 |
| 10 | 45 |
| -6 | 19 |


| Would this be a fair rule? |  |
| :--- | :--- |
| $\frac{\text { Input }}{1}$ | $\underline{\text { Output }}$ |
| 2 | -6 |
| 3 | -3 |
| 5 | 2 |
| 7 | 18 |
| 10 | 42 |



## What is a Function?

Objective:
-Be able to tell if something is a function or not


## Function? (COPY THIS ONE

 FOR YOUR NOTES)| $x$ | $y$ |
| :---: | :---: |
| 3 | 6 |
| 5 | 10 |
| 5 | 12 |
| 8 | 14 |
| 12 | 18 |

No; the input " 5 " has more than one output.


Function?

| $x$ | $y$ |
| :---: | :---: |
| 1 | 5 |
| 1 | 6 |
| 2 | 7 |
| 2 | 8 |
| 3 | 9 |

No; the inputs " 1 " and " 2 " have more than one output.

## Function?

| $x$ | $y$ |
| :---: | :---: |
| 1 | 24 |
| 2 | 9 |
| 3 | -6 |
| 4 | -21 |
| 5 | -36 |

Yes; each input has only one output.

## Function?

| $\mathbf{x}$ | $\mathbf{y}$ |
| :---: | :---: |
| 1 | -2 |
| 2 | -2 |
| 3 | -2 |
| 4 | -2 |
| 5 | -2 |

Yes; each input has only one output. (You can have the same output for multiple inputs!)

## Function?

$$
(2,8) ;(-5,9) ;(7,9) ;(2,-4),(7,4)
$$

## Function?

$(1,5) ;(8,19) ;(4,11) ;(-8,-13),(1,5)$

Yes, each input has only 1 output.
than one output.


## Function?



Yes, each input has only 1 output.

## Function?

## Function? (COPY THIS ONE FOR YOUR NOTES)



Yes, each input has only 1 output.

## Function? (COPY THIS ONE FOR YOUR NOTES)



## Function? (COPY THIS ONE FOR YOUR NOTES)



No; most $x$ values have two different $y$-values

Rules for graphs of functions

- ON A GRAPH:
- The $x$-value (horizontal) is the INPUT and the $y$-value (vertical) is the OUTPUT.
- To be a function, each $x$-value can only have one $y$-value.


## Function?



No


## Function?



8 This graph is just plain wrong. How can Tom be in two places at once?

H



## Would this be a function?

- Input = student in this class
- Output = desk label of the student's assigned seat

Yes, each input has only 1 output.

## WITH YOUR GROUP:

Decide whether each of the relationships are functions. EACH PERSON should be able to explain each one, so discuss well!!!
. Input = Facebook user, Output = password
2. Input = student, Output = the student's hair color

Homework

- "Is it a function?" worksheet
. Input = student in our class, Output = planet he/she lives on
. Input = state, Output = \# of letters in the state's name
. Input = month, Output = \# of days in the month
. Input = \# of days in the month, Output = month
. Input = date, Output = temperature outside
. Input = password, Output = Facebook user

9. Input = any integer, Output = double that integer

## $1,2,3,4,5,9$ are functions

