Name_____ Date_____ Period_____

LESSON 9-1 · SESSION 1 · PRACTICE · FORM A

Independent and Dependent Variables

Learning target – I can name the independent and dependent variables in a relationship. · 6.EE.C.9

REMEMBER

- The **independent variable** is the input: you choose it, or it comes first.
- The **dependent variable** is the output. It changes because of the input.
- Sentence test: "**dependent** depends on **independent**." Independent goes on the *x*-axis.

WORKED EXAMPLE

A bike rental costs $5 for each hour. Name the variables.

Step 1 The quantities are hours rented and total cost.

Step 2 Cost changes when hours change.

Step 3 "Total cost depends on hours rented" makes sense.

Answer **hours = independent; cost = dependent**

WORDS **independent variable** *(variable independiente)* · **dependent variable** *(variable dependiente)* · **depends on** *(depende de)*

PRACTICE

show your work · label units

1. For each pair, write **I** under the independent variable and **D** under the dependent variable.

	Quantity	I or D	Quantity	I or D
a.	hours worked		money earned	
b.	test score		hours studied	
c.	miles driven		gallons of fuel	
d.	guests at a party		pizzas needed	

2. **Popcorn Stand.** Nia sells popcorn at games. The more bags she sells, the more money she collects. Longer games lead to more bags sold.

a. Bags sold and money collected. Independent: _____ Dependent: _____

b. Game length and bags sold. Independent: _____ Dependent: _____

c. Which quantity is independent in one pair and dependent in the other? _____

3. **Science Fair Ferns.** Theo waters some ferns more often than others. Then he measures how tall each fern grows.

   Hint *What does the student control? What is only measured?*

   a. Independent variable: _____

   b. Dependent variable: _____

4. **Bus Ride.** The farther a bus travels, the more riders board. A student says the number of riders is the independent variable. Do you agree?

   Hint *Use the sentence test: what depends on what?*

   Agree?_____

5. **Dog Walking.** Jaden walks dogs. The more hours he walks, the more money he earns. Name the dependent variable.

   Hint *Which one changes because of the other?*

   Dependent_____

6. **Which Axis?** A graph shows the cost of a taxi ride and the number of miles driven.

   Hint *The independent variable goes across.*

   a. Which variable goes on the *x*-axis? _____

   b. Which variable goes on the *y*-axis? _____

7. **Downloading Photos.** The more photos Priya picks, the longer the download takes. Write a sentence with "depends on." Then name the dependent variable.

   Hint *Priya picks the photos; the time only responds.*

   Sentence_____

8. **Sneaker Sale.** Every pair of sneakers costs the same price. A student says total money collected is the independent variable because it is the bigger number. Explain whether you agree. Then name both variables.

   Show your work.

   Variables_____

FIND THE ERROR

explain the mistake, then fix it

9. Marisol's Work. A movie theater sells drinks. Marisol wrote: "The number of drinks sold depends on the money the theater collects." Explain her mistake and write a correct sentence.

TEST PRACTICE

choose the best answer

10. The independent variable goes on the –

A *x*-axis **B** *y*-axis **C** origin **D** title

11. In "hours worked and money earned," the dependent variable is –

A hours worked **B** money earned **C** both **D** neither

SELF-CHECK CODE

find your answer · copy its letter into that problem's box · spell a math word

Disagree T	bags sold O	height U	time T	miles U	Agree Q	money P	ferns Z	dogs J	hours X

#2c	#3b	#4	#5	#6a	#7

CHECK YOURSELF	☐ I can do this on my own	☐ I need a little help	☐ I have a question about #___