Name_____ Date_____ Period_____

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

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.	pages read		minutes reading	
b.	cups sold		money collected	
c.	calories burned		minutes jogged	
d.	players on a team		water bottles needed	

2. **Lemonade Stand.** Ava sells lemonade. The more cups she sells, the more money she collects. Hotter days lead to more cups sold.

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

b. Temperature and cups sold. Independent: _____ Dependent: _____

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

3. **Plant Light.** Lucia gives each plant a different number of hours of light. Then she counts how many leaves grow.

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

   a. Independent variable: _____

   b. Dependent variable: _____

4. **Garden Hose.** The longer a hose runs, the more water fills a pool. A student says the time the hose runs is the independent variable. Do you agree?

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

   Agree?_____

5. **Mowing Lawns.** Andre mows lawns. The more lawns he mows, the more gas he uses. Name the dependent variable.

   Hint *Which one changes because of the other?*

   Dependent_____

6. **Which Axis?** A graph shows the height of a candle and the hours it has burned.

   Hint *The independent variable goes across.*

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

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

7. **Charging a Phone.** The longer Elena's phone is plugged in, the higher its battery percentage. Write a sentence with "depends on." Then name the dependent variable.

   Hint *Elena controls the time; the battery only responds.*

   Sentence_____

8. **Muffin Sale.** Every muffin costs the same price. A student says the number of muffins sold is the dependent variable because it is the smaller number. Explain whether you agree. Then name both variables.

   Show your work.

   Variables_____

FIND THE ERROR

explain the mistake, then fix it

9. **Jamal's Work.** Jada practices free throws. Jamal wrote: "The minutes Jada practices depend on her free-throw score." Explain his mistake and write a correct sentence.

TEST PRACTICE

choose the best answer

10. The dependent variable goes on the –

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

11. In "gallons of fuel and miles driven," the dependent variable is –

A miles driven **B** gallons of fuel **C** both **D** neither

SELF-CHECK CODE

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

cups sold **D**	plants **Z**	gas **E**	leaves **E**	hours **N**	Disagree **Q**	phone **J**	battery **D**	lawns **X**	Agree **P**

#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 #___