

7th Grade
April 22, 2021

Today we will:

- Review video notes
- Work on HW



HOMEWORK:

- Skills WS
- ALEKS homework on functions due TOMORROW

ALEKS time and topics assignment due Monday



A direct variation between two quantities is a relationship in which the **ratio** of one quantity to the other quantity is

constant

A direct variation can be written as an equation in the form

$$y = mx$$

where m represents the slope

The graph of a direct variation is always a

line
that goes through the origin

Determine whether each of the tables below represent a direct variation.

x	1	2	3	4	5
y	2	4	6	8	10

$$\frac{y}{x} = \frac{2}{1} = \frac{4}{2} = \frac{6}{3} = \frac{8}{4} = \frac{10}{5}$$

✓ yes → D.V.

x	4	6	8	10	12
y	8	13	18	23	28

$$\frac{y}{x} = \frac{8}{4} \neq \frac{13}{6}$$

✗ No → not a D.V.

x	5	8	10	12
y	10	14	22	30

$$\frac{y}{x} = \frac{10}{5} \neq \frac{14}{8}$$

✗ No → not a D.V.

Tell whether each equation represent a direct variation. If so identify the constant of variation.

$$y = 9.50x$$

yes → in form of $y = mx$
constant = 9.50

$$y = 0.10x + 15$$

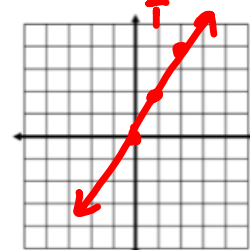
No → not $y = mx$

$$y = 24x$$

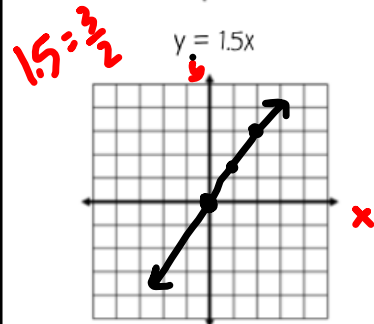
yes - looks like $y = mx$
constant = 24

Graph each direct variation equation below.

$$y = 2x$$

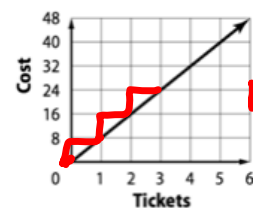


$$y = 1.5x$$




Write an equation for the direct variation graphed below.

Movie Tickets



$$y = 8x$$

Representing a Direct Variation...


 Name _____
 Unit ____ Lesson _____ Due Date _____



Guided Practice

1. Recall the graph from Lesson 9–3 of the circular design on an Internet advertisement, shown at the right. The design has two circles, one that is decreasing in size and one that is increasing in size. (Example 1)

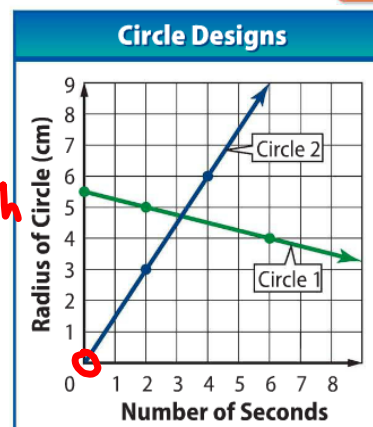
- a. Determine if the relationship between the number of seconds and the radius of circle 1 is a direct variation. *No-not through origin*
- b. Determine if the relationship between the number of seconds and the radius of circle 2 is a direct variation.

Yes - goes through origin

2. **Financial Literacy** The equation $y = 750x$ represents the number of dollars y Olivia earns in x weeks. Determine if there is a constant of variation. If so, explain what it represents. (Example 2)

yes - looks like $y = mx$

750 is how much Olivia earns per week.





HOMEWORK



Name _____

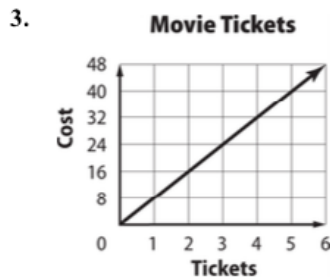
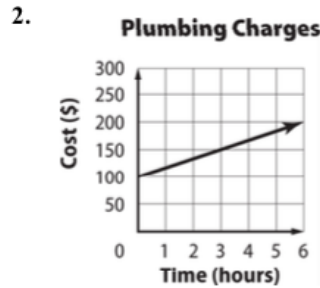
Unit ____ Lesson ____ Due Date ____

Lesson 4 Skills Practice
Direct Variation

Determine if the relationship between the two quantities is a direct variation. Explain your reasoning.

1.

Pints	Cups
x	y
1	2
2	4
3	6
4	8



4.

Width (ft)	Height (in.)
x	y
5	10
8	14
10	22
12	30

For each equation, determine if there is a constant of variation. If so, explain what it represents.

5. The equation $y = 9.50x$ represents the number of dollars y Marty paid for x movie tickets.

6. The equation $y = 0.10x + 45$ represents the cost y of a cell phone plan when x text messages are sent and received.

7. The equation $y = 24x$ represents the number of bottles of water y in x packages.