Virtual Learning

Essential Math 4

Unit 11
Lesson 1: Multiplication World

May 4, 2020

Essential Math 4
Lesson 1: May 4, 2020

Learning Target:
I can use multiplication to help understand exponents.

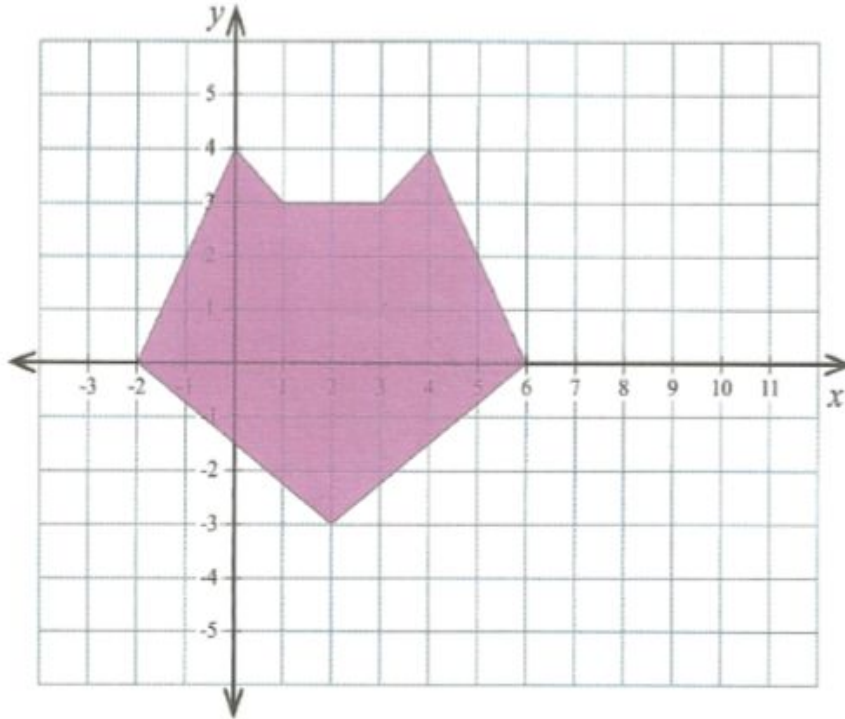You will explore the use of multiplication and its relationship to exponents.

Directions:

1. Click through the slides.
2. Watch all videos on slides.
3. Do what each slide asks on a separate sheet of paper.

Bell Work May 4, 2020

Use the transformation rule $(x, y) \rightarrow (x + 5, y - 2)$ to move and redraw this graph. Record the points in the table.

(x, y)	$(x + 5, y - 2)$
(0, 4)	
(1, 3)	
	(8, 1)
	(9, 2)
	(11, -2)
(2, -3)	
	(3, -2)

Bell Work Key

May 4, 2020

Use the transformation rule $(x, y) \rightarrow (x + 5, y - 2)$ to move and redraw this graph. Record the points in the table.
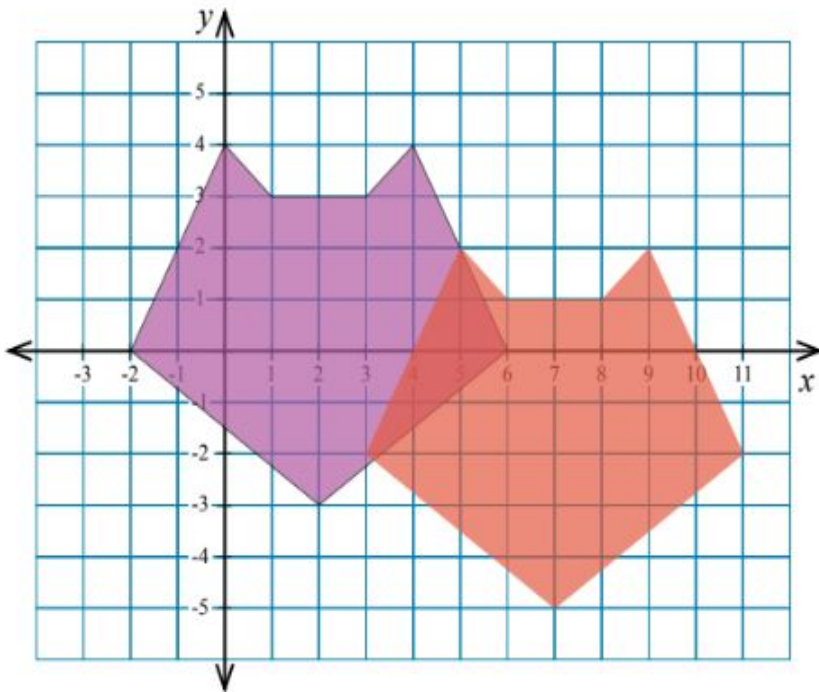

(x , y)	(x + 5, y − 2)
(0, 4)	(5, 2)
(1, 3)	(6, 1)
(3, 3)	(8, 1)
(4, 4)	(9, 2)
(6, 0)	(11, -2)
(2, -3)	(7, -5)
(-2, 0)	(3, -2)

Practice Problems:
Unit 11
Lesson 1
page 3, # 1

① Growth by addition:
For every hour you work, you earn $8.
Fill in the table.

Hour	Money earned
1	$8
2	$16
3	
4	
5	
6	
7	
8	
9	
10	

Answer Key:
Once you have completed the problems, check your answers for page 3 here.

① Growth by addition:
For every hour you work, you earn $8.
Fill in the table.

Hour	Money earned
1	$8
2	$16
3	$24
4	$32
5	$40
6	$48
7	$56
8	$64
9	$72
10	$80

Practice Problems:
Unit 11
Lesson 1
page 3, # 2

Growth by multiplication: You invite three friends to a social networking site and every friend invites three friends of their own.

(a) Fill in the table.

(b) Draw some more stages of the diagram.

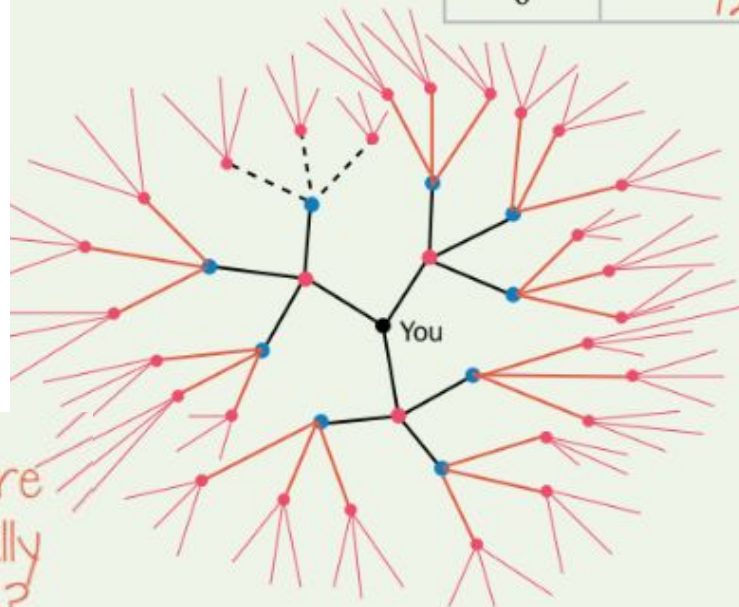| Stage	Friends Invited
0	1 (Just you)
1	3
2	9
3	
4	
5	
6	

You

Answer Key:

Once you have completed the problems, check your answers for page 3 here.

Growth by multiplication: You invite three friends to a social networking site and every friend invites three friends of their own.

(a) Fill in the table.

(b) Draw some more stages of the diagram.

0	1 (Just you)
1	3
2	9
3	27
4	81
5	243
6	729

You

That's only two more stages. Do you really want to draw more?

Take a sheet of scrap paper. Fold it in half. Then, without opening it again, fold it in half again. Keep folding in half again in either direction, as many times as you can.

- How many times were you able to fold your paper? Was anyone able to fold more than 6 times?
- *Before you open your paper,* try to figure out how many sections your folds created in your piece of paper. Share your predictions with the class. Then unfold your paper.

Practice Problems:
Unit 11
Lesson 1
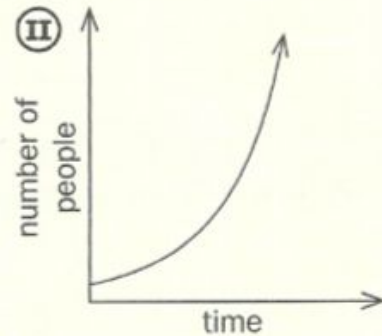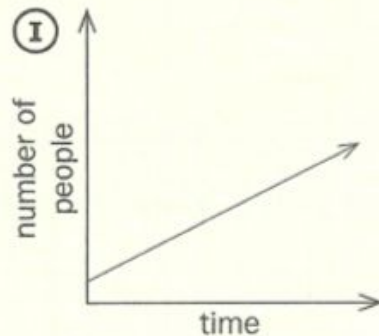page 3

For fun, watch this video on folding.

Mythbusters

Practice Problems: Unit 11 Lesson 1 (page 3, # 3-4)

③ Growth by addition and growth by multiplication *look* different. Match each story with the appropriate graph.

(a) The line to buy movie tickets starts with 5 people, and 3 more people join the line every minute.

(b) Only 10 people saw the movie when it opened, but each day, twice as many people come to see the movie as the day before.

(I)

number of people

time

(II)

number of people

time

④ In problem 3, which graph shows growth by addition? Growth by multiplication? Label them.

Answer Key:

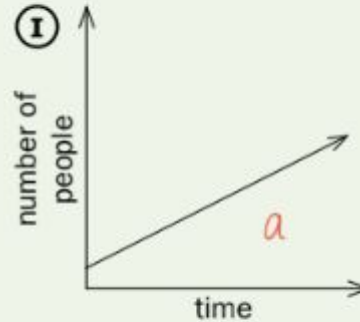Once you have completed the problems, check your answers for page 3 here.

③ Growth by addition and growth by multiplication *look* different. Match each story with the appropriate graph.

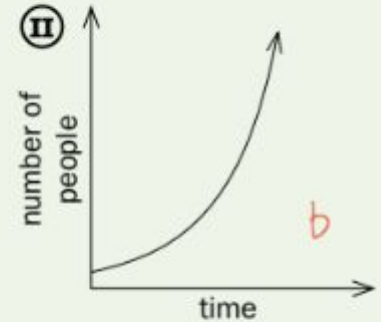ⓐ The line to buy movie tickets starts with 5 people, and 3 more people join the line every minute.

Graph I

ⓑ Only 10 people saw the movie when it opened, but each day, twice as many people come to see the movie as the day before.

Graph II

④ In problem 3, which graph shows growth by addition? Growth by multiplication? Label them.

Growth by addition

Growth by multiplication

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