

**Linear
or
Exponential
Function?**

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Instructions

Print or copy page 3 and 4 on both sides.

Cut off the top region by Linear Function and Exponential Function.

Place the paper so the examples are face up.

Cut along the dotted lines to create flaps.

Fold the flaps inwards.

Glue the foldable into notes or on a piece of construction paper.

Go through the foldable with your students.

Linear Function

Exponential Function

What is a linear function?

A linear function is a function that can be written in the form $y = mx + b$.

An exponential function is a function that can be written in the form $y = a(b)^x$.

What is an exponential function?

Is a linear model arithmetic or geometric? Explain.

2, 5, 8, 11, 14, ...

4, 16, ...

Is an exponential model arithmetic or geometric? Explain.

How do you know the table represents a linear model?

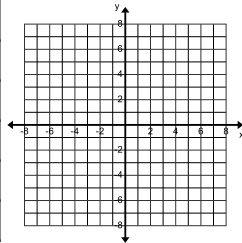
x	y
1	7
2	3
3	-1
4	-5
5	-9

x	y
1	81
2	27
3	9
4	3
5	1

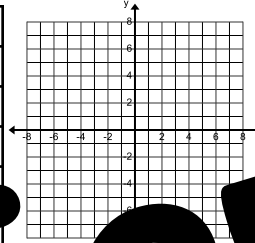
How do you know the table represents an exponential model?

What does the graph of a linear function look like?

x	y
1	-3
2	-1
3	1
4	3
5	5



x	y
1	0.5
2	1
3	2
4	4
5	8



What does the graph of an exponential function look like?

Write an equation of the linear function that passes through the points (3, 4) and (6, 1).

Write an equation of the linear function that passes through the points (0, 2) and (1, 6).

Don charges a flat fee of \$5 to mow a lawn and then \$8 per every hour. Write an equation of the linear model.

Lisa went to school with the flu. The number of infected people double each day. Write an equation of the exponential model.

Preview
Preview

What is an exponential function?

What is a linear function?

Is an exponential model arithmetic or geometric? Explain.

Is a linear model arithmetic or geometric? Explain.

How do you know if a table represents an exponential model?

How do you know if a table represents a linear model?

What does the graph of an exponential function look like?

What does the graph of a linear function look like?

Write an equation of the linear function that passes through the points $(0, 2)$ and $(1, 6)$.

Write an equation of the linear function that passes through the points $(3, 4)$ and $(6, 10)$.

Lisa went to school with the flu. The number of infected people double each day. Write an equation of the exponential model.

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A linear function is arithmetic because it has a common difference between terms.

4, 16, ...

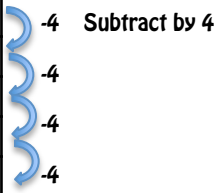


An exponential function is geometric because it has a common ratio between terms.

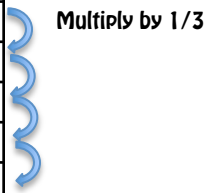
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How do you know the table represents a linear model?

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4	-5
5	-9



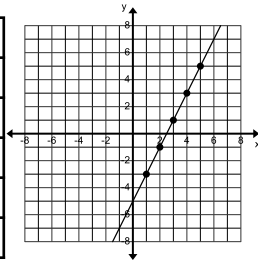
x	y
1	81
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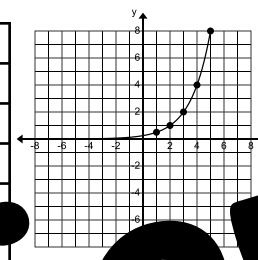
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5	5



x	y
1	0.5
2	1
3	2
4	4
5	8



What does the graph of an exponential function look like?

Write an equation of the linear function that passes through the points (3, 4) and (6, 10).

$$m = (10-4)/(6-3) = 2$$

$$y - 4 = 2(x - 3)$$

$$y - 4 = 2x - 6$$

$$y = 2x + 2$$

Write an equation of the exponential function that passes through the points (0, 2) and (1, 6).

$$y = 2(3)^x$$

Don charges a flat fee of \$5 to mow a lawn and then \$8 per every hour. Write an equation of the linear model.

$$m = 8 \text{ and } b = 5$$

$$y = mx + b$$

$$y = 8x + 5$$

$$a = 1 \text{ and } b = 2$$

$$y = a(b)^x$$

$$y = 2(3)^x$$

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