Basic Exponential Equations
Identify whether the following tables represent a linear or exponential relationship or if it is neither:

| 1. |
| :--- |
| $x$ |$| y$

2. 

| $x$ | $y$ |
| :---: | :---: |
| 0 | 1.5 |
| 2 | 96 |
| 3 | 6144 |
| 4 | 49152 |

3. 

| $x$ | $y$ |
| :---: | :---: |
| -2 | -1 |
| 0 | -7 |
| 3 | -16 |
| 5 | -22 |

4. Create a table that represents a linear relationship

| $x$ | $y$ |
| :---: | :---: |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

What is your rate of change?
5. Create a table that represents an exponential relationship.


What is your rate of change?
6. A river doubles its width every 2 years. When it starts it is 9 feet wide.
a. Write an equation to represent the growth of the river. Write the equation in two equivalent ways.
b. How wide will the river be in 10 years? Your answer should be in YARDS.

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4. Create a table that represents a linear relationship

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| :---: | :---: |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

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What is your rate of change?
6. A river doubles its width every 2 years. When it starts it is 9 feet wide.
c. Write an equation to represent the growth of the river. Write the equation in two equivalent ways.
d. How wide will the river be in 10 years? Your answer should be in YARDS.
7. There's an epidemic spreading in Orem. 100 people are found to be sick, then 5 additional people are reported sick every day. a. Write an equation to represent the spread of the sickness. Write the equation in two equivalent ways.
b. How many people will be sick in two weeks?
8. Each week, a dumpster weighs three times as much as it did the week before. When it started it was 100 pounds.
a. Write an equation to represent the weight of the dumpster. Write the equation in two equivalent ways.
b. How much will it weigh after four weeks?

| Neither | Exponential | Linear |
| :---: | :---: | :---: |
| 170 | 96 | 8100 |

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