## Math 3

Name: $\qquad$
Toolkit \#7:
Exponentials
Date: $\qquad$
Period: A1 A2 A3 B1 B2 B3

| Multiple representations of Exponentials |  |
| :---: | :---: |
| Situation: <br> Susan got two rabbits from the animal shelter last summer. A month later, those rabbits have babies and then she had 6 rabbits. After a few months she realized that her number of rabbits triples every month. At this rate, how many rabbits will she have a year after she first got the rabbits? | Equation: $\begin{aligned} & y=a b^{x} \\ & a=\text { initial value } \\ & b=\text { multiplier } \end{aligned}$ <br> Define variables: <br> Let $x$ represent time since $\qquad$ (in months). <br> Let y represent $\qquad$ <br> Equation: |
| Table: | Graph: |

## Multiple representations of Exponentials

## Situation:

In 2019 Ms. Ramer bought a used car: a 2007 Toyota Prius for $\$ 5,000$.

- The value of the car will depreciate each year by approximately $\qquad$ .
- In 2007, the car had a value of $\qquad$ .
- If Ms. Ramer keeps her car until 2030, it will be worth about $\qquad$ .
- The graph of this situation has an asymptote. That means that, theoretically, $\qquad$
Equation:

```
y=ab
a= initial value
b= multiplier
```

Define variables:

## Equation:

Graph:


