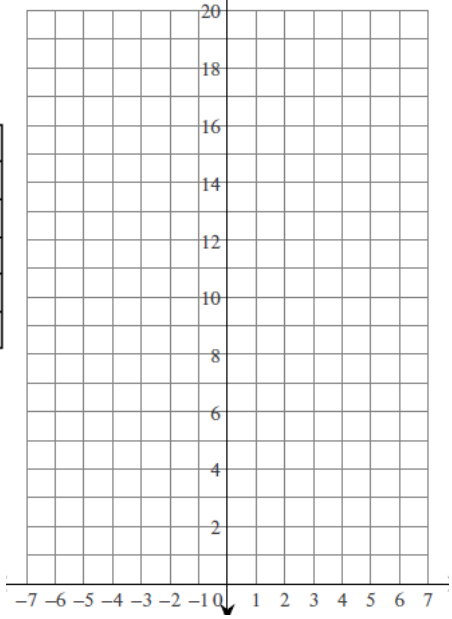
# EXTRA REVIEW

**Graph each of the following exponential functions. Classify each function as exponential growth or decay. Indicate the y-intercept and the growth/decay factor.**

1. $y = 7 \cdot 0.2^x$

| x | y |
|---|---|
| -2 | |
| -1 | |
| 0 | |
| 1 | |
| 2 | |

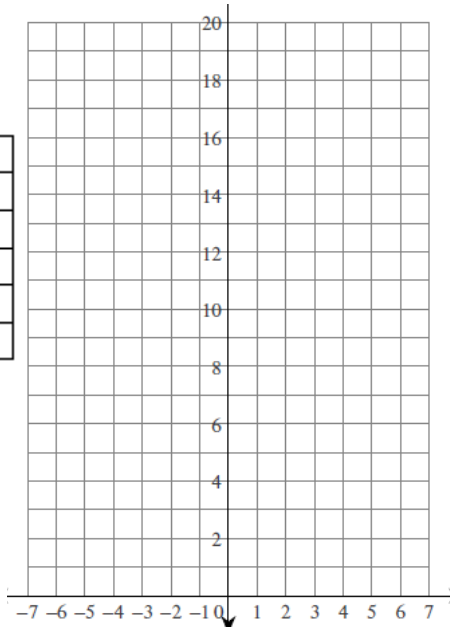
growth/decay
y-int: _____
factor: _____



2. $y = 0.2 \cdot (4)^x$

| x | y |
|---|---|
| -2 | |
| -1 | |
| 0 | |
| 1 | |
| 2 | |

growth/decay
y-int: _____
factor: _____



**Write exponential functions given the following scenarios.**

3. A business had a profit of $35,000 in 1998 that increased by 18% per year. Write the equation to model the situation. Find the profit of the company after 8 years.

4. You buy a used truck for $4,000. The value of the truck depreciates at a yearly rate of 12%. Write the equation to model the situation. Find the value of the truck after 6 months.

5. Between 1970 and 2000, the population of a town increased by approximately 2.5% each year. In 1970 there were 600 people. Write the equation to model the situation. Find the population of the city in 1999.

**Determine whether the following scenarios would be best modeled using a linear or exponential model. Then, write an equation.**

6. Ms. Hunter takes off 10 points for each day an assignment is turned in late. The assignments are worth 100 points each.

7. There are 200 ladybugs in a certain population. The population is decreasing by 14% per day.

8. Your salary starts at $23000 and goes up by 5% per year.

9. A painter is going to charge $90 for paint and $35 an hour to paint your kitchen.