

Rewrite in standard form.

1) 3.02×10^4

2) 6.506×10^{-5}

1 pt each

Rewrite in scientific notation.

3) 54,390

4) .00000207

1 pt each

Evaluate each expression and write the result in scientific notation.

5) $(3 \times 10^4)(3 \times 10^5)$

6) $(2 \times 10^{-1})^3$

7) $\frac{4 \times 10^{-4}}{8 \times 10^{-5}}$

2 points each

8) Given the model $y = 231(1 - .52)^t$...

3 points

a. Identify the situation as either exponential growth or decay

Circle one: Exponential Growth Exponential Decay

b. Identify the **initial amount** and the **rate**

Initial amount:	Rate: (write as a percent)
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- 9) Suppose that you memorize a list of 100 German vocabulary words. Each week you forget $\frac{1}{6}$ of the words you knew the previous week. The number of vocabulary words, W , you remember after t weeks can be modeled by:

$$W = \underline{\hspace{2cm}} \left(\frac{5}{6}\right)^t \quad (\text{fill in the blank to complete the function})$$

Complete the table showing the number of words you remember each week.

3 pts

Week, t	0	5	10	15
Words, W				

- 10) A business had a \$5,000 profit in 1990. Then the profit *increased* by 15% per year for the next 10 years.

- a. Identify the situation as either exponential growth or decay

3 pts

Circle one: Exponential Growth Exponential Decay

- b. Write a growth or decay model for the situation.

- c. Estimate the profit of the company in 2000

11) Graph $y = 6\left(\frac{1}{2}\right)^x$ 3 points

$x=0 \rightarrow$ _____, point = _____

$x=1 \rightarrow$ _____, point = _____

Domain: _____ Range: _____

12) Graph $y = 5 \cdot 2^x$ 3 points

$x=0 \rightarrow$ _____, point = _____

$x=1 \rightarrow$ _____, point = _____

Domain: _____ Range: _____

