Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

GSE Algebra 1 Day 13 – Exponential Decay HW

|  |  |
| --- | --- |
| 1. **Which of the following models an exponential decay function?**
2. y = ½t2
3. y = 12($\frac{4}{3}$)t
4. y = 10 + 3t
5. y = 8
 | 1. **Which of the following models an exponential decay function?**
2. y = 8(0.67)x
3. y = 5t2
4. f(t) = 3(1.24)t
5. f(x) = 2 + 5x
 |
| 1. **Which of the following is NOT an exponential decay function?**
2. y = 5$\left(\frac{2}{3}\right)^{x}$
3. f(x) = $\frac{1}{4}\left(\frac{1}{7}\right)^{x}$
4. y = 6$\left(\frac{3}{5}\right)^{x}$
5. f(x) = 2$\left(\frac{8}{3}\right)^{x}$
 | 1. **Classify the model y = 8(0.5)x as exponential growth or decay. Then identify the growth or decay factor.**
2. Exponential growth, growth rate 50%

 1. Exponential decay, decay rate 50%
2. Exponential growth, growth rate 8%
3. Exponential decay, decay rate 40%
 |
| 1. **What is the y – intercept of y = (½)x – 1 ?**
 | 1. **Evaluate the function at the given x value.**

f(x) = $\frac{1}{3}$(6x) at x = 2 |

**Identify the following characteristics for each exponential growth function**

1. y = (½)x  **8)** f(x) = $\left(\frac{1}{4}\right)^{x}$+ 6 **9)** y = – 3 + $\left(\frac{1}{2}\right)^{x}$

Base: \_\_\_\_\_\_\_\_\_\_ Base: \_\_\_\_\_\_\_\_\_\_ Base: \_\_\_\_\_\_\_\_\_\_

Initial Value: \_\_\_\_\_\_\_\_\_ Initial Value: \_\_\_\_\_\_\_\_\_\_ Initial Value: \_\_\_\_\_\_\_\_\_\_\_

H.A: \_\_\_\_\_\_\_\_\_\_\_ H.A: \_\_\_\_\_\_\_\_\_\_\_\_ H.A: \_\_\_\_\_\_\_\_\_\_

y – int: \_\_\_\_\_\_\_\_\_\_ y – int: \_\_\_\_\_\_\_\_\_\_\_ y – int: \_\_\_\_\_\_\_\_\_\_\_\_

End Beh: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ End Beh: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ End Beh: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**10)** f(x) = 3$\left(\frac{2}{3}\right)^{x}$ **11)** y = – 2$\left(\frac{1}{4}\right)^{x}$ – 1 **12)** y = – 5(0.5x) + 2

Base: \_\_\_\_\_\_\_\_\_\_ Base: \_\_\_\_\_\_\_\_\_\_ Base: \_\_\_\_\_\_\_\_\_\_

Initial Value: \_\_\_\_\_\_\_\_\_ Initial Value: \_\_\_\_\_\_\_\_\_\_ Initial Value: \_\_\_\_\_\_\_\_\_\_\_

H.A: \_\_\_\_\_\_\_\_\_\_\_ H.A: \_\_\_\_\_\_\_\_\_\_\_\_ H.A: \_\_\_\_\_\_\_\_\_\_

y – int: \_\_\_\_\_\_\_\_\_\_ y – int: \_\_\_\_\_\_\_\_\_\_\_ y – int: \_\_\_\_\_\_\_\_\_\_\_\_

End Beh: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ End Beh: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ End Beh: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**13) Graph the exponential function **

Growth or Decay? \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Initial Value: \_\_\_\_\_\_\_\_\_\_ Base: \_\_\_\_\_\_\_\_\_

HA : \_\_\_\_\_\_\_\_\_\_\_\_

Domain: \_\_\_\_\_\_\_\_\_\_\_\_\_ Range: \_\_\_\_\_\_\_\_\_\_\_\_

Max: \_\_\_\_\_\_\_\_\_\_\_ Min: \_\_\_\_\_\_\_\_\_\_\_\_\_

Y-Intercept:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Increasing: \_\_\_\_\_\_\_\_\_\_ Decreasing: \_\_\_\_\_\_\_\_\_\_\_

End Behavior: As x increases, y approaches \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 As x decreases, y approaches \_\_\_\_\_\_\_\_\_\_\_\_\_\_

**14) Graph the exponential function **

Growth or Decay? \_\_\_\_\_\_\_\_\_\_\_\_

Initial Value: \_\_\_\_\_\_\_\_\_\_ Base: \_\_\_\_\_\_\_\_\_

HA : \_\_\_\_\_\_\_\_\_ Domain: \_\_\_\_\_\_\_\_\_\_\_ Range: \_\_\_\_\_\_\_\_\_\_\_\_

Max: \_\_\_\_\_\_\_\_\_\_\_ Min: \_\_\_\_\_\_\_\_\_\_\_\_\_

Y-Intercept;\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Increasing: \_\_\_\_\_\_\_\_\_\_ Decreasing: \_\_\_\_\_\_\_\_\_\_\_

End Behavior: As x increases, y approaches \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 As x decreases, y approaches \_\_\_\_\_\_\_\_\_\_\_\_\_\_