4.RC.1 – CHAPTER 4 REVIEW

THE FOLLOWING PROBLEMS WILL BE COMPLETED WITH YOUR SHOULDER PARTNER IN A RALLY COACH FORMAT.

partners take turns, one solving a problem while the other coaches

1. Partner A solve the first problem.
2. Partner B watches and listens, checks, coaches (if necessary), and praises.
3. Switch roles.
4. Partner B solve the next problem.
5. Partner A watches and listens, checks, coaches (if necessary), and praises.
6. Partners repeat taking turns while solving problems.

Name: _____

PARTNER A

1A) Growth or decay? Find percent rate.

$$P(t) = 4.3(1.018)^t$$

2A) Growth or decay? Find percent rate.

$$P(t) = 22.7(0.834)^t$$

3A) Write an exponential function.
Initial value = 28900
Decreasing at a rate of 2.6%

4A) Write an exponential function.
Initial value = 52
Rising at a rate of 0.85%

5A) Analyze: $Q = 200(0.89)^t$
Linear or exponential?
Increasing or decreasing?
Rate of change/% rate of change = _____

6A) Analyze: $Q = 600 + 50t$
Linear or exponential?
Increasing or decreasing?
Rate of change/% rate of change = _____

7A) Identify the function as linear or exponential.
Then write the function equation.

x	−2	0	2	4	6
y	8	2	−4	−10	−16

Name: _____

PARTNER B

1B) Growth or decay? Find percent rate.

$$P(t) = 7896(0.968)^t$$

2B) Growth or decay? Find percent rate.

$$P(t) = 1.23(1.049)^t$$

3B) Write an exponential function.
Initial value = 18
Escalating at a rate of 5.2%

4B) Write an exponential function.
Initial value = 287
Reducing at a rate of 0.7%

5B) Analyze: $Q = 2000 - 300t$
Linear or exponential?
Increasing or decreasing?
Rate of change/% rate of change = _____

6B) Analyze: $Q = 1000(1.028)^t$
Linear or exponential?
Increasing or decreasing?
Rate of change/% rate of change = _____

7B) Identify the function as linear or exponential.
Then write the function equation.

x	−2	−1	0	1	2
y	48	12	3	$\frac{3}{4}$	$\frac{3}{16}$

8A) Write the formula for the price of a gallon of gas in t days if the price is \$2.50 on day t = 0 and the price is:

a. Increasing by \$0.03 per day

b. Decreasing by 4% per day

8B) Write the formula for the price of a gallon of gas in t days if the price is \$2.50 on day t = 0 and the price is:

a. Decreasing by \$0.07 per day

b. Increasing by 2% per day

9A) If $f(0) = 4, f(5) = 8.05$, what is b? *Round to 3 decimal places.* Identify as growth or decay? What is the percent rate of change?

9B) If $f(0) = 3, f(4) = 1.49$, what is b? *Round to 3 decimal places.* Identify as growth or decay? What is the percent rate of change?

10A) Write the exponential function that passes through $(-5, 8)$ & $(5, 4)$. *Round b to 3 decimal places; round a to 2 decimal places.*

10B) Write the exponential function that passes through $(-4, 8)$ & $(4, 2)$. *Round b to 3 decimal places; round a to 2 decimal places.*

11A) Analyze the function: $Q(t) = 5(0.843)^t - 6$

a. y-intercept:

b. increasing or decreasing?

c. Horizontal asymptote:

d. $\lim_{t \to -\infty} Q(t) =$

e. $\lim_{t \to \infty} Q(t) =$

f. Range:

11B) Analyze the function: $Q(t) = 11(1.482)^t + 3$

a. y-intercept:

b. increasing or decreasing?

c. Horizontal asymptote:

d. $\lim_{t \to -\infty} Q(t) =$

e. $\lim_{t \to \infty} Q(t) =$

f. Range:

12A) Write the linear function that passes through $(-4, 8)$ & $(4, 2)$

12B) Write the linear function that passes through $(-5, 8)$ & $(5, 4)$