Practice Arithmetic & Geometric Sequences Quiz Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Find the next three terms in each sequence. Then, identify the rule and write whether each sequence is arithmetic or geometric.**

 Sequence Rule Arithmetic or Geometric

3, 12, 48, 192, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1, 6, 36, 216, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

900, 450, 225, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

60, 50, 40, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1, -2, 4, -8, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

.5, 1, 2, 4, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

-1, -4, -7, -10, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2, -6, 18, -54, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Identify the common difference in the following sequences:**

6, 8, 10, 12, … common difference is \_\_\_\_\_

11, 9, 7, 5, … common difference is \_\_\_\_\_

-10, -5, 0, 5, … common difference is \_\_\_\_\_

**Identify the common ratio in the following sequences:**

3, 15, 75, 375, … common ratio is \_\_\_\_\_

-5, 5, -5, 5, … common ratio is \_\_\_\_\_

280, 70, 17.5, 4.375, … common ratio is \_\_\_\_\_

**Define the following words.**

Sequence \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Term \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Arithmetic Sequence \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Geometric Sequence \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Common Difference \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Common Ratio \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Describe each translation:

|  |  |  |
| --- | --- | --- |
|  | Parent Function | Translated Function |
| a) | $$y=\left|x\right|$$ | $$y=\left|x+4\right|$$ |
|  |  |  |
| b) | $$y=\frac{1}{2}x-6$$ | $$y=\frac{1}{2}\left(x-4\right)-6$$ |
|  |  |  |
| c) | $$y=\left|x\right|$$ | $$y=1+\left|x-3\right|$$ |
|  |  |  |
| d) | $$y=-\frac{3}{4}x+1$$ | $$y=-\frac{3}{4}x+8$$ |