

Geometric Sequences

Name: _____

Hour: _____

$$a_n = a_1 r^{n-1}$$

Is the sequence geometric? (Circle Yes or no.) If yes, find the common ratio, r. If no, leave r = ____ blank.
For # 8-15, find the given term.

	Geometric?	Ratio	
1. 1, 2, 4, 8, 16, ...	yes or no	r = _____	
2. 1, -1, -3, -5, -7, ...	yes or no	r = _____	
3. 2, -2, 2, -2, 2, ...	yes or no	r = _____	
4. 2, 6, 18, 54, 162, ...	yes or no	r = _____	
5. 25, 5, 1, $\frac{1}{5}$, $\frac{1}{25}$, ...	yes or no	r = _____	
6. 7, 6, 5, 4, 3, 2, 1, ...	yes or no	r = _____	
7. -3, -6, -12, -24, -48, ...	yes or no	r = _____	
8. 5, 10, 20, 40, ...	yes or no	r = _____	22 nd term _____
9. 8, -4, 2, -1, $\frac{1}{2}$, $-\frac{1}{4}$, ...	yes or no	r = _____	8 th term _____
10. 0, 3, 6, 9, 12, 15, ...	yes or no	r = _____	10 th term _____
11. 4, 12, 36, 108, 324, ...	yes or no	r = _____	7 th term _____
12. 13, 13, 13, 13, 13, 13, ...	yes or no	r = _____	100 th term _____
13. 30, 60, 120, 240, 480, ...	yes or no	r = _____	8 th term _____
14. 200, 100, 50, 25, 12.5, 6.25, ...	yes or no	r = _____	7 th term _____
15. -16, -32, -64, -128, -256, ...	yes or no	r = _____	15 th term _____

16. What is the value of x in this geometric sequence, $\left\{x, -\frac{1}{2}, \frac{1}{8}, -\frac{1}{32}, \dots\right\}$?

Find the inverse of the following functions.

17. $f(x) = 4x - \frac{3}{4}$

18. $f(x) = \frac{(x-3)^3}{5}$