**Geometric Sequence Review** Name \_\_\_\_\_\_\_\_\_\_\_KEY\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Determine if the sequence is geometric. If it is, find the common ratio.**

1. -1, 6, -36, 216 1. \_\_\_\_\_\_$r=-6$\_\_\_\_
2. -1, 1, 4, 8 2. \_\_\_not geometric
3. 4, 16, 36, 64 3. \_\_\_\_\_\_\_Not geometric
4. -3, -15, -75, -375 4. \_\_\_\_\_\_$r=5$ \_\_
5. -2, -4, -8, -16 5. \_\_\_\_\_\_\_$ r=2$ \_\_
6. 1, -5, 25, -125 6. \_\_\_\_\_$ r=-5$ \_

**Given the explicit formula for a geometric sequence, find the first five terms and the 8th term.**

1. $a\_{n}=3^{n-1}$ 7. \_\_1, 3, 9, 27, 81, $a\_{8}=2,187$\_\_\_\_\_\_\_
2. $a\_{n}=2\left(\frac{1}{4}\right)^{n-1}$ 8. \_2, $\frac{1}{2}, \frac{1}{8}, \frac{1}{32}, \frac{1}{128}, a\_{8}=\frac{1}{8,192}$\_\_\_
3. $a\_{n}=-2.5(4)^{n-1}$ 9. \_\_-2.5, -10, -40, -160, -640, $a\_{8}=-40,960$\_\_\_
4. $a\_{n}=-4(3)^{n-1}$ 10. \_\_\_-4, -12, -36, -108, -324, $a\_{8}=-8,748$\_\_\_\_

**Given the first term and the common ratio of a geometric sequence, find the first five terms and the explicit formula.**

1. $a\_{1}=0.8, r=-5$ 11. \_0.8, -4, 20, -100, 500, $a\_{n}=0.8(-5)^{n-1}$
2. $a\_{1}=1, r=2$ 12. 1, 2, 4, 8, 16, $a\_{n}=2^{n-1}$

**Given the first term and the common ratio of a geometric sequence, find the recursive formula and the three terms in the sequence after the last one given.**

1. $a\_{1}=-4, r=6$ 13. \_\_-24, -144, -864, $a\_{1}=-4, a\_{n}=a\_{n-1}∙6$\_
2. $a\_{1}=4, r=6$ 14. \_\_24, 144, 864, $a\_{1}=4, a\_{n}=a\_{n-1}∙6$

**Find the missing term(s) in each geometric sequence.**

1. -2, \_\_\_\_\_, -8 15. \_\_\_\_\_-4\_\_\_\_\_\_\_
2. 2, \_\_\_\_\_, 50 16. \_\_\_\_\_\_5\_\_\_\_\_\_
3. 4, \_\_\_\_\_, 36 17. \_\_\_\_\_12\_\_\_\_\_\_\_
4. -3, \_\_\_\_\_, -108 18. \_\_\_\_\_-18\_\_\_
5. -3, \_\_\_\_\_, \_\_\_\_\_, -24 19. \_\_\_-6, -12\_\_\_\_\_
6. 0.75, \_\_\_\_\_, \_\_\_\_\_, 48 20. \_\_\_3, 12\_\_\_\_\_\_

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**F.BF.1 REVIEW**

1. Katie and Jennifer are playing a game.
* Katie and Jennifer each started with 100 points.
* At the end of each turn, Katie’s points doubled.
* At the end of each turn, Jennifer’s points increased by 200.

At the start of which turn will Katie first have more points than Jennifer?

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Turn | 0 | 1 | 2 | 3 | 4 |
| Katie | 100 | 200 | 400 | 800 | 1,600 |
| Jennifer | 100 | 300 | 500 | 700 | 900 |

Answer: Turn 4

1. The sequence below shows the total number of days Francisco had used his gym membership at the end of weeks 1, 2, 3, and 4.

4, 9, 14, 19, ...

Assuming the pattern continued, which function could be used to find the total number of days Francisco had used his gym membership at the end of week *n*?

A *f*(*n*) *= n* + 5

B *f*(*n*) *=* 5*n* – 1

C *f*(*n*) *=* 5*n +* 4

D *f*(*n*) *= n*2