

Math Sheet

Name _____ Score _____ Teacher _____ Date _____

Geometric Sequences

Complete all three sections. Sequence indexing starts at 1.

1. Is each list geometric? Give r when it is.

1. 3, -6, 13, -24

Yes / No: _____ d or r: _____

2. 3.7, 22.2, 133.3, 799.2

Yes / No: _____ d or r: _____

3. 4.2, 12.6, 37.8, 113.4

Yes / No: _____ d or r: _____

4. 3, -9, 27, -81

Yes / No: _____ d or r: _____

2. Use the formula. Write the first four terms and the stated term.

5. $a_n = 4 \cdot 6^{n-1}$

First 4: _____

$a_7 =$ _____

6. $a_n = 2.4 \cdot (-4)^{n-1}$

First 4: _____

$a_7 =$ _____

7. $a_n = 2.4 \cdot (-5)^{n-1}$

First 4: _____

$a_5 =$ _____

8. $a_n = 3 \cdot 5^{n-1}$

First 4: _____

$a_6 =$ _____

3. Use the first term and d or r. Write four terms and an explicit formula.

9. $a_1 = 3.5$ $r = -4$

First 4: _____

$a_n =$ _____

10. $a_1 = 4$ $r = 4$

First 4: _____

$a_n =$ _____

11. $a_1 = 4$ $r = 3$

First 4: _____

$a_n =$ _____

12. $a_1 = 1.7$ $r = -6$

First 4: _____

$a_n =$ _____

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Geometric Sequences

Answer Key

Complete all three sections. Sequence indexing starts at 1.

1. Is each list geometric? Give r when it is.

1. 3, -6, 13, -24

No; ratios are not constant.

2. 3.7, 22.2, 133.3, 799.2

No; ratios are not constant.

3. 4.2, 12.6, 37.8, 113.4

Yes; $r = 3$.

4. 3, -9, 27, -81

Yes; $r = -3$.

2. Use the formula. Write the first four terms and the stated term.

5. $a_n = 4 \cdot 6^{n-1}$

First 4: 4, 24, 144, 864

$a_7 = 186624$

6. $a_n = 2.4 \cdot (-4)^{n-1}$

First 4: 2.4, -9.6, 38.4, -153.6

$a_7 = 9830.4$

7. $a_n = 2.4 \cdot (-5)^{n-1}$

First 4: 2.4, -12.0, 60.0, -300.0

$a_5 = 1500.0$

8. $a_n = 3 \cdot 5^{n-1}$

First 4: 3, 15, 75, 375

$a_6 = 9375$

3. Use the first term and d or r. Write four terms and an explicit formula.

9. $a_1 = 3.5$ $r = -4$

First 4: 3.5, -14.0, 56.0, -224.0

$a_n = 3.5 \cdot (-4)^{n-1}$

10. $a_1 = 4$ $r = 4$

First 4: 4, 16, 64, 256

$a_n = 4 \cdot 4^{n-1}$

11. $a_1 = 4$ $r = 3$

First 4: 4, 12, 36, 108

$a_n = 4 \cdot 3^{n-1}$

12. $a_1 = 1.7$ $r = -6$

First 4: 1.7, -10.2, 61.2, -367.2

$a_n = 1.7 \cdot (-6)^{n-1}$