

## 6-2d Geometric Sequences (ver2)\_hw

**Find the common ratio. If the sequence is geometric, find the explicit formula and the 8th term of sequence.**

1) 4, 8, 16, 32, ...

2) -1, -5, -25, -125, ...

3) -3, -12, -48, -192, ...

4) 2, -6, 18, -54, ...

5) -1, -3, -9, -27, ...

6) -1, -6, -36, -216, ...

7) 2, -12, 72, -432, ...

8) 2, 4, 12, 48, ...

9) 4, -20, 100, -500, ...

10) -4, 16, -64, 256, ...

11) -4, 8, -16, 32, ...

12) 8, -10, -28, -46, ...

13) -4, -20, -100, -500, ...

14) -2, -12, -72, -432, ...

## Answers to 6-2d Geometric Sequences (ver2)\_hw

- 1) Common Ratio:  $r = 2$   
 $a_8 = 512$   
Explicit:  $a_n = 4 \cdot 2^{n-1}$
- 2) Common Ratio:  $r = 5$   
 $a_8 = -78125$   
Explicit:  $a_n = -5^{n-1}$
- 3) Common Ratio:  $r = 4$   
 $a_8 = -49152$   
Explicit:  $a_n = -3 \cdot 4^{n-1}$
- 4) Common Ratio:  $r = -3$   
 $a_8 = -4374$   
Explicit:  $a_n = 2 \cdot (-3)^{n-1}$
- 5) Common Ratio:  $r = 3$   
 $a_8 = -2187$   
Explicit:  $a_n = -3^{n-1}$
- 6) Common Ratio:  $r = 6$   
 $a_8 = -279936$   
Explicit:  $a_n = -6^{n-1}$
- 7) Common Ratio:  $r = -6$   
 $a_8 = -559872$   
Explicit:  $a_n = 2 \cdot (-6)^{n-1}$
- 8) Not geometric
- 9) Common Ratio:  $r = -5$   
 $a_8 = -312500$   
Explicit:  $a_n = 4 \cdot (-5)^{n-1}$
- 10) Common Ratio:  $r = -4$   
 $a_8 = 65536$   
Explicit:  $a_n = -4 \cdot (-4)^{n-1}$
- 11) Common Ratio:  $r = -2$   
 $a_8 = 512$   
Explicit:  $a_n = -4 \cdot (-2)^{n-1}$
- 12) Not geometric
- 13) Common Ratio:  $r = 5$   
 $a_8 = -312500$   
Explicit:  $a_n = -4 \cdot 5^{n-1}$
- 14) Common Ratio:  $r = 6$   
 $a_8 = -559872$   
Explicit:  $a_n = -2 \cdot 6^{n-1}$