

Geometric Sequences Worksheet

- In the geometric sequence 3, 6, 12, ... find each term.
(a) t_6 (b) t_{11} (c) t_n
- Find the indicated term for each geometric sequence.
(a) 5, 10, 20, ... (t_{13}) (b) -3, 15, -75, ... (t_8)
(c) 12, 6, 3, ... (t_{12}) (d) $6, -2, \frac{2}{3}, \dots$ (t_9)
- For the geometric sequence 3, 12, 48, ... which term is 12 288?
- For the geometric sequence 2, -6, 18, ... which term is 162?
- Find the first 5 terms of the geometric sequence with the third term 18 and the seventh term 1458.
- How many terms are in each sequence?
(a) $12, 4, \frac{4}{3}, \dots, \frac{4}{729}$ (b) $64, 32, 16, \dots, \frac{1}{256}$
- If $x - 3$, $x + 1$, and $4x - 2$ are consecutive terms in a geometric sequence find x .
- If $m + 2$, $m + 4$, and $2m + 11$ are consecutive terms in a geometric sequence find m .
- Revenue Canada allows 30% depreciation on computer equipment that is used for business purposes. If a business computer costs \$1500 today, what value will Revenue Canada assign the computer four years from now?
- Many photocopiers have a feature that reduces the image of the original. Usually the maximum reduction capability is 64%. How many reductions, at the maximum setting, would you need to reduce the image to less than 10% of its original size?

Pre-Calculus 12

Answers

1. (a) 96 (b) 3072 (c) $3(2)^{n-1}$
2. (a) 20480 (b) 234375 (c) $\frac{3}{512}$ (d) $\frac{2}{2187}$
3. 7
4. 5
5. 2, 6, 18, 54, 162 and 2, -6, 18, -54, 162
6. (a) 8 (b) 15
7. $\frac{1}{3}, 5$
8. -6, -1
9. \$360.15
10. 7