

4.3.D2 ~ Terms of a Sequence

Past due on _____ Period _____

- 1) Pat's Pizza made 16 pizzas on Monday, 22 pizzas on Tuesday, and 28 pizzas on Wednesday. If this pattern continues, how many pizzas will Pat's Pizza make on Friday?
- 2) Consider the sequence: 4, 12, 36, 108, 324, 972 Is the sequence arithmetic or geometric? Explain your reasoning. What is the next number in the pattern?
- 3) Determine the 50th term in the sequence defined by $a_n = -11 + 5(n - 1)$
- 4) Determine the 7th term in the sequence defined by $a_n = 2 \cdot \left(\frac{1}{2}\right)^{n-1}$

Determine the common ratio AND each unknown terms in the given geometric sequence using the explicit formula. Refer to the 4.3 example "Writing Explicit Formulas for Arithmetic and Geometric Sequences" in the Chapter 4 Summary.

5) 1, 3, 9, 27, ...
Find a_9

6) -4, -8, -16, -32, ...
Find a_9

7) -1, 2, -4, 8, ...
Find a_{12}

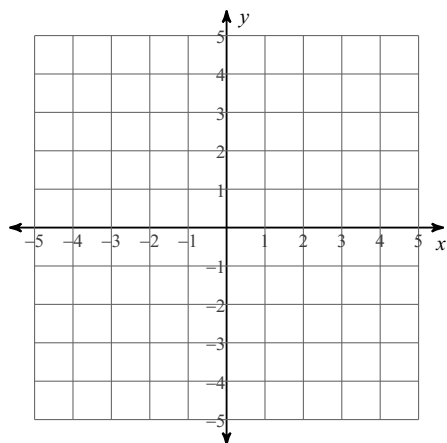
8) -4, -16, -64, -256, ...
Find a_9

Write the first 4 terms of each sequence.

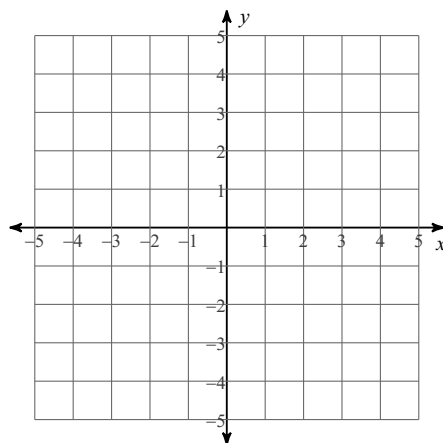
- 9) An arithmetic sequence with a common difference of 7 and a first term of -12
- 10) A geometric sequence with a common ratio of 0.1 and a first term of 100
- 11) An arithmetic sequence with a common difference of -0.25 and a first term of 5
- 12) A geometric sequence with a common ratio of 2 and a first term of $\frac{1}{3}$

Graph each system of linear inequalities. Refer to the 7.2 example "Graphing a System of Linear Inequalities" in the Chapter 7 Summary.

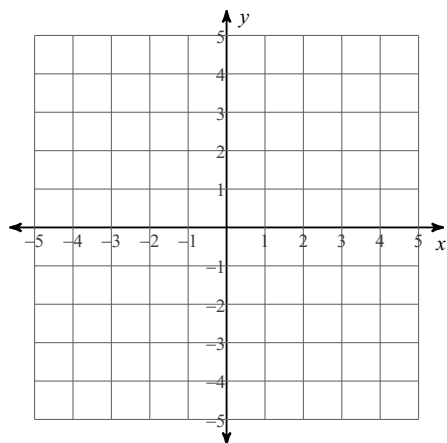
$$13) \begin{aligned} y &< -2x - 3 \\ y &< -\frac{1}{3}x + 2 \end{aligned}$$



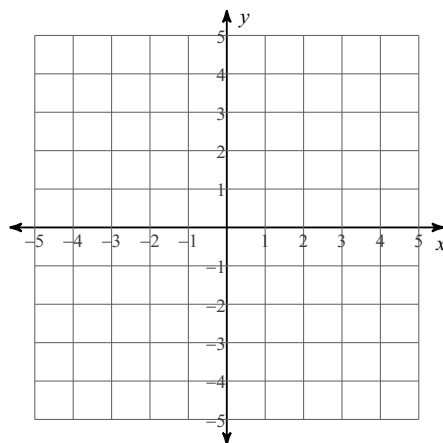
$$14) \begin{aligned} y &< -\frac{1}{2}x + 3 \\ y &< 2x - 2 \end{aligned}$$



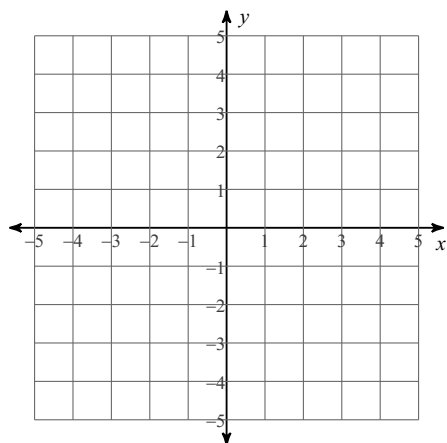
$$15) \begin{aligned} y &\geq \frac{1}{3}x - 3 \\ y &< -\frac{4}{3}x + 2 \end{aligned}$$



$$16) \begin{aligned} y &\geq \frac{1}{2}x + 2 \\ y &> \frac{1}{2}x - 3 \end{aligned}$$



$$17) \begin{aligned} x - 2y &< -6 \\ x + 2y &> 2 \end{aligned}$$



$$18) \begin{aligned} 4x + y &\geq -3 \\ 2x - y &> -3 \end{aligned}$$

