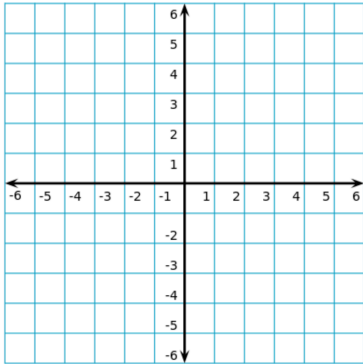


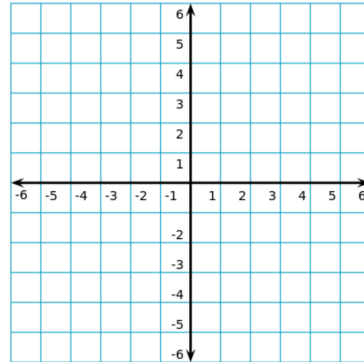
Homework Week of Jan. 12

Graph the system of linear inequalities.

$$1.) \begin{cases} y < -\frac{1}{5}x + 2 \\ y \geq 4x - 3 \end{cases}$$



$$2.) \begin{cases} y < 6x - 2 \\ y > -4 \end{cases}$$



Solve each exponential equations.

$$3.) 7^{2x-6} = 2401$$

$$4.) 2^{-3x-20} = 1024$$

Simplify the expression

$$5.) \frac{8xy}{6x^5yz^{-2}}$$

$$6.) \frac{z^8}{z^{-2} \cdot z^9}$$

$$7.) \left(\frac{3x}{2}\right)^3$$

$$8.) 3x^5 \cdot (-2x)^4$$

Tell whether the sequence is geometric. Explain your reasoning.

9.) $27, 9, 3, 1, \frac{1}{3}$

10.) $2, 6, 24, 120, 720$

11.) $-1, 2, -4, 8, -16$

Write an equation for the n th term of the following sequences. Then find a_6 .

12.) $6561, 2187, 729, 243$

13.) $8, -24, 72, -216$

Solve the system of equations.

14.)
$$\begin{aligned}x + 5y &= -2 \\5x + y &= 14\end{aligned}$$

15.)
$$\begin{aligned}x - 2y &= -3 \\7x - 2y &= 15\end{aligned}$$
