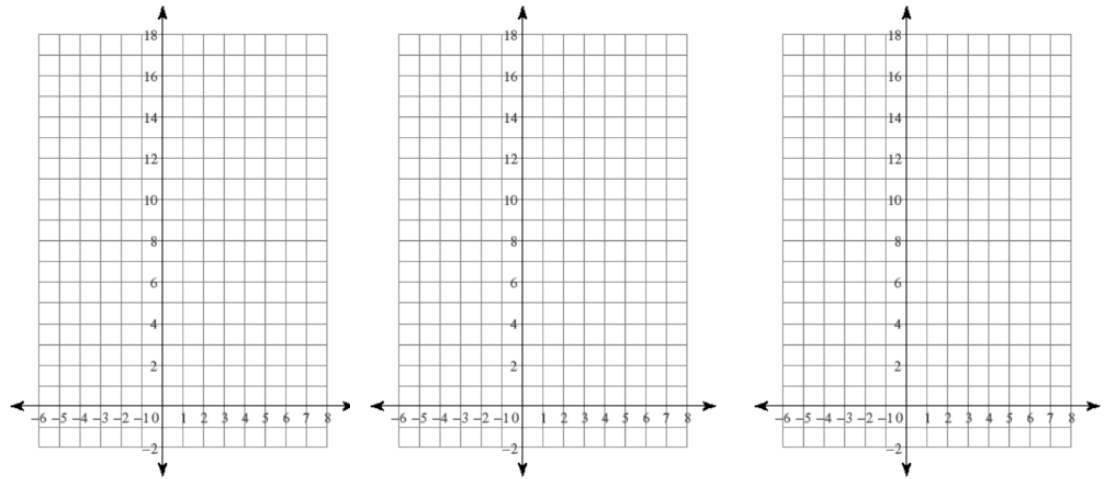


Graph

$$y = 3\left(\frac{1}{4}\right)^{x-4} - 2$$

$$y = 5 \cdot 3^{x+7} - 4$$

$$y = 2\left(\frac{1}{3}\right)^x + 3$$



Simplify each expression.

3. $(x^{-1}y^{-2}z^3)^{-2}(x^2y^{-4}z^6)$

4. $\frac{(2x)^3}{-4x^3}$

5. $\left(\frac{-4x^4y^{-5}}{24x^{-2}y^{-1}}\right)^{-3}$

6. $\left(\frac{3x^{-4}}{y^{-3}}\right)^{-2}$

7. $\left[\left(\frac{x^5y^2}{x^{-3}y}\right)^{-2}\left(\frac{y^{-3}}{2x^5}\right)^3\right]^{-1}$

8. $\left(\frac{5x^{-5}c^{-2}}{z^3}\right)^2\left(\frac{c^3z^3}{x}\right)^{-3}$

Solve

$$3^{1-2x} = 243$$

$$6^{3m} \cdot 6^{-m} = 6^{-2m}$$

$$\frac{2^x}{2^x} = 2^{-2x}$$

$$81 \cdot 9^{-2b-2} = 27$$

$$243^{k+2} \cdot 9^{2k-1} = 9$$

Solve

$$e^{x-1} - 5 = 5$$

$$11^{n-8} - 5 = 54$$

$$10 \cdot e^{2n-10} - 5 = 73$$

$$-8 \cdot e^{5-6x} + 10 = -16$$

$$3 \cdot e^{4-3x} + 1.6 = 45.6$$