

Simplify each. Write answers so that no exponents are negative or zero.

1. $6Q^{-4}R^6S^0$

$$\frac{6R^6}{Q^4}$$

2. $\frac{-10H^5J^{-2}}{K^{-9}}$

$$\frac{-10H^5K^9}{J^2}$$

3. $\frac{C^{-6}D^{-1}}{E^8}$

$$\frac{1}{C^6DE^8}$$

4. $\frac{-5M^0}{3^{-2}N^{-4}}$

$$\frac{-5 \cdot 3^2 N^4}{1} = -45N^4$$

5. $\left(\frac{x^{-9}}{y^7}\right)^{-1}$

$$\left(\frac{1}{y^7x^9}\right)^{-1} = x^9y^7$$

Evaluate each for $P = -3$ $Q = 6$. Leave non-integer answers as a fraction in reduced form.

6. $-5PQ^{-2}$

$$\frac{-5P}{Q^2}$$

$$\frac{-5(-3)}{(6)^2} = \frac{15}{36} = \frac{5}{12}$$

7. $\frac{P^{-3}}{Q^{-1}}$

$$= \frac{Q}{P^3}$$

$$= \frac{6}{(-3)^3}$$

$$= \frac{6}{-27} = -\frac{2}{9}$$