

Each question below is FALSE. Correct each statement to make it true.

1. $4^0 = 0$ False $4^0 = 1$

2. $3^{-2} = -9$ False $3^{-2} = \frac{1}{3^2}$ or $\frac{1}{9}$

3. $m^2 + m^3 = m^5$ False $m^2 \cdot m^3 = m^5$

4. $3^{70} < (3^{30})^2$ False $3^{70} > (3^{30})^2$

5. $0^0 = 1$ False INDETERMINATE

Use the laws of exponents to simplify each expression below to a single power to a positive exponent. Evaluate where possible.

1.) $(x^3)^2$

$$\boxed{x^6}$$

2.) $(a^{-3})^2$

$$\boxed{\frac{1}{a^6}}$$

3.) $(p^4 \div p^6)^3$

$$\frac{(p^{-2})^3}{p^{-6}}$$

$$\boxed{\frac{1}{p^6}}$$

4.) $(a^3 \cdot a^2 \cdot a^{-4})^2$

$$\frac{(a^1)^2}{a^2}$$

$$\boxed{a^2}$$

5.) $(n^8 \div n^9)^2$

$$\frac{(n^{-1})^2}{n^{-2}}$$

$$\boxed{\frac{1}{n^2}}$$

6.) $(g^{-3} \cdot g^{-2})^{-1}$

$$\frac{(g^{-5})^{-1}}{g^5}$$

$$\boxed{g^5}$$

7.) $\frac{(n^6)^6}{(n^4)^5}$ $\frac{n^{36}}{n^{20}}$

$$\boxed{n^{16}}$$