

1. Simplify, leaving your answer in exponent form with only positive exponents. Show work.

a) $c^{-2} \cdot c^9$ Answer: _____

b) w^{-6} Answer: _____

c) $(x^{10}y^4)^0$ Answer: _____

d) $\frac{a^4}{a^{12}}$ Answer: _____

e) $(w^{-3})^{-5}$ Answer: _____

f) $\frac{12x^{-2}y}{15x^4y^{-3}}$ Answer: _____

g) $(5x^4)^2$ Answer: _____

h) $-3a^9 \cdot 7a$ Answer: _____

i) $(4x^{-7})^3 \cdot (x^8)^2$ Answer: _____

j) $\frac{c^6 \cdot (c^5)^{-3}}{c}$ Answer: _____

k) $\left(\frac{4x^8}{3y}\right)^2$ Answer: _____

2. Fill in the blanks for each problem.

a) $\sqrt[3]{216} = \underline{\quad}$ because $\underline{\quad} \cdot \underline{\quad} \cdot \underline{\quad} = \underline{\quad}$

b) $\sqrt{81} = \underline{\quad}$ because $\underline{\quad} \cdot \underline{\quad} = \underline{\quad}$

c) $2 = \sqrt[3]{\quad}$

d) $\sqrt[9]{56} = 56^{\frac{\square}{\square}}$ (fraction exponent)

3. Evaluate. Show your work. Answers only will not get any credit. (Yes, these are fractional exponents.)

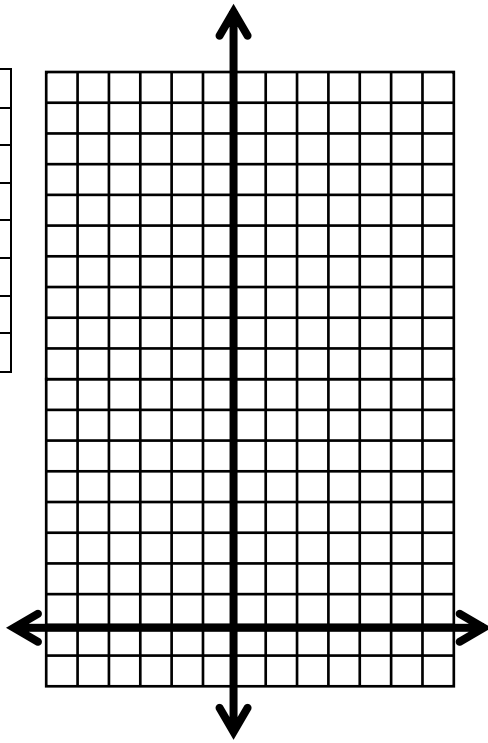
a) $144^{\frac{1}{2}}$ Answer: _____

b) $16^{\frac{3}{4}}$ Answer: _____

c) $27^{\frac{2}{3}}$ Answer: _____

4. Using a chart, graph $y = 2 \cdot 3^x$

x	y
2	
1	
0	
-1	
-2	
-3	
-4	



The scale is 1...do NOT change the scale!