

Today's Learning Goal(s):

By the end of the class, I will be able to:

- evaluate a power involving an integer exponent.
- simplify expressions involving integer exponents.

4.2 Working with Integer Exponents

Date: _____

Ex.1 Simplify.

a) $(5^3)(5^4)$

b) $13^6 \div 13^2$

c) $(6^3)^4$

$$b^m \times b^n = b^{m+n} \quad b^m \div b^n = b^{m-n} \quad (b^m)^n = b^{mn}$$

d) $3^4 \div 3^4$

e) $5^3 \div 5^5$

or d) $3^4 \div 3^4$

$$b^0 = 1$$

$$\therefore b^{-n} = \frac{1}{b^n}$$

Need to know in the metric system:

m

g

L

Ex.2 Evaluate. Express your answers as simplified rationals.
(vs. *simplify*)

a) 6^{-2}

b) $(-4)^{-2}$

c) -4^{-2}

d) $\left(\frac{3}{4}\right)^{-2}$

or $\left(\frac{3}{4}\right)^{-2}$

e) $\frac{(5^{-4})(5^{-2})}{(5^{-3})}$

f) $\frac{(8^{-4})(2^3)}{(16^{-2})}$

Extra Practice (you try)

g) $2^5(-10)^{-2}$ h) $15^{-4} \times \left(\frac{15^2}{15^8}\right)^{-1}$ i) $(3^0 + 3^2)^{-1}$ j) $\frac{4^5}{2^{-3}} \times \frac{2^{-1}}{4^3}$

Recall: $(-2)^4$ vs -2^4

READ p.221

Today's Homework Practice includes:
pp. 221-223 #(1 – 9)ace, 11b, 13acegi, 16ace