Name: Kew

Class: _____

Practice - Using Exponents to Describe Numbers

1) For each power, identify the base and the exponent.

a) 5²

b) 2³

c) $(-3)^4$

base: 5

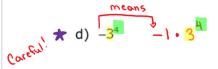
base: A

base: -3

exponent: ___a

exponent: 3

exponent: 4



e) $\left(\frac{2}{3}\right)^2$

f) 2.1⁶

base: ____**3**____

base: 3

base: **3.1**

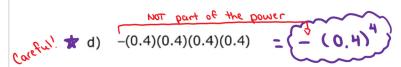
exponent: 4

exponent: 6

2) Write each expression as a power (do not evaluate).

Exponent

c)
$$(-7)(-7)(-7)(-7) = (-7)^5$$



e)
$$\left(\frac{2}{5}\right) \times \left(\frac{2}{5}\right) \times \left(\frac{2}{5}\right) \times \left(\frac{2}{5}\right) = \left(\left(\frac{2}{5}\right)^{\frac{4}{5}}\right)^{\frac{4}{5}}$$

3) Write each power as repeated multiplication (expanded form), then evaluate.

a)
$$3^4 = 3 \cdot 3 \cdot 3 \cdot 3$$

b)
$$5^3 = 5 \cdot 5 \cdot 5$$
= 125

c)
$$(-2)^2 = (-2)(-3)$$

d)
$$-5^3 = -1.5 \cdot 5 \cdot 5$$

= -125

e)
$$\left(\frac{1}{4}\right)^2 = \left(\frac{1}{4}\right)\left(\frac{1}{4}\right)$$

$$= \frac{1}{16}$$

4) Evaluate each of the following.

a)
$$6^3 = 216$$

b)
$$2^7 = 128$$

d)
$$(-4)^2 = 16$$

f)
$$\left(-\frac{4}{5}\right)^2 = \frac{16}{25}$$