

1.1 Working with Exponents

(chapter 3.2 in text)



Learning Goal: you will be able to

- represent repeated multiplication in exponent form
- evaluate an exponential expression
- apply your knowledge when solving problems

Exponents



A **power** is a product of identical factors and consists of two parts:

$$2^4$$

base  exponent 

The base is the identical factor, and the exponent tells how many factors there are.

$$2^4 = 2 \times 2 \times 2 \times 2$$

exponential form  expanded form 

Ex. Write in expanded form

a) 2^5 b) $(-3)^3$ c) $(-3)^4$ d) -3^4

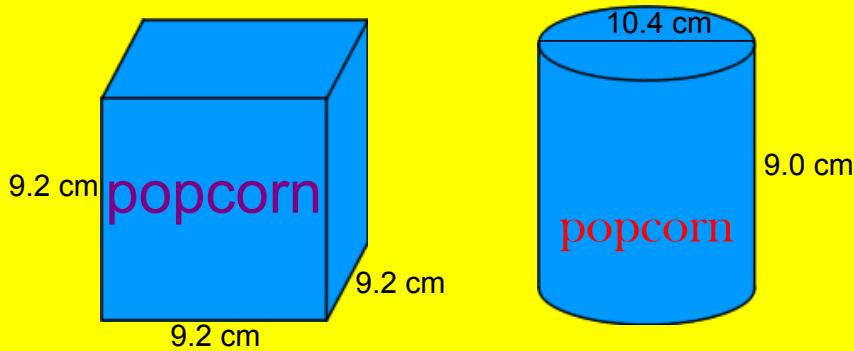
e) 3.5^3 f) $\left(\frac{2}{3}\right)^3$ g) $\left(-\frac{1}{2}\right)^4$

Ex. Evaluate.

a) $3^4 \div 9^1$ b) $(4^2 - 3^2) + (4^3 - 3^4)$ c) $8(12)^2$ d) $4\pi r^2$ when $r=10$

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

Ex. The local movie theatre would like to sell popcorn in new containers. They have two options



a) Which container holds more popcorn?

b) How much more?

Assume that each container is filled just to the top. Round your answer to the nearest cubic centimeter

Homework, page 114, #1-8, 10

(be sure to check your answers in the back of the book!)