

Name: \_\_\_\_\_

Period: \_\_\_\_\_

Exponents and Expressions  
Test Study Guide

What is the value of  $(1/2)^2$ ?

What is the value of  $8 \div 2 \times 4^2$ ?

The width of a star increases 3 times per year for the first 5 years of its life. If a star starts at 3 miles across, select the expressions that represent its growth after five years.

$3^5$

$5^3$

$3 \times 3 \times 3 \times 3 \times 3$

$5 \times 5 \times 5$

$27 \times 9$

To volume of a cube, you use the equation  $V=s^3$  where  $s$  is the length of a side. If Matt draws a cube with sides of 9 inches and Susan draws a cube with sides  $\frac{1}{2}$  of that length, which expressions represent the volume of Susan's cube?

$9 \times 9 \times 9$

$\frac{1}{2} + (9 \times 3)$

$(9 \div 2)^3$

91.125

$4.5 \times 4.5 \times 4.5$

Match the algebraic expression with its English expression.

4 less than eight times a number

$x^3 - 8$

triple the difference of 8 less than a number

$8x - 4$

subtract 8 from a number cubed

$3(x - 8)$

Identify the constant, terms, coefficients, and variables in the expression below:

$$4x + 3y + 5$$

Evaluate the expression  $5x + 12$  when  $x=4$ .

Evaluate the expression  $\frac{1}{2}x + 3x$  when  $x=12$ .

True or False:  $2x^2$  when  $x=3$  is 36. Why or why not?