10.1 Exponents

The expression 3^5 is called a *power*. The *base* is 3. The *exponent* is 5.

base → 3^5 ← exponent

Write the product using exponents.

A. $2 \cdot 2 \cdot 2$ _____

B. $\left(-\frac{1}{6}\right) \cdot \left(-\frac{1}{6}\right) \cdot \left(-\frac{1}{6}\right)$ _____

C. $(-7) \cdot (-7)$ _____

D. $11 \cdot 11 \cdot \pi \cdot \pi \cdot \pi$ _____

E. $\frac{2}{3} \cdot \frac{2}{3} \cdot \frac{2}{3} \cdot \frac{2}{3} \cdot x \cdot x$ _____

F. $(-3)(-3)(-3)(-3)$ _____

Evaluate each expression.

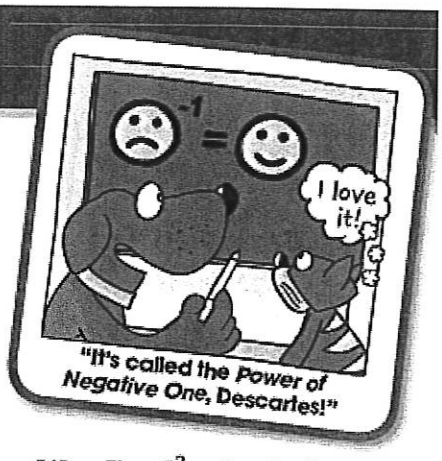
A. $(-2)^4$ _____

B. -2^4 _____

C. $(-3)^3$ _____

D. -3^3 _____

What You Learned Before



Using Order of Operations

Example 1 **Evaluate $6^2 \div 4 - 2(9 - 5)$.**

First:	Parentheses	$6^2 \div 4 - 2(9 - 5) = 6^2 \div 4 - 2 \cdot 4$
Second:	Exponents	$= 36 \div 4 - 2 \cdot 4$
Third:	Multiplication and Division (from left to right)	$= 9 - 8$
Fourth:	Addition and Subtraction (from left to right)	$= 1$

Evaluate each expression. Show all work.

A. $3 + 2 \cdot 3^4$

B. $3^3 - 8^2 \div 2$

C. $15\left(\frac{8}{4}\right) + 2^3 - 3 \cdot 7$

D. $3^2 - 1 + 2[4(3 + 2)]$

ON YOUR OWN

Evaluate the expression.

A. -5^3

B. $\left(-\frac{1}{2}\right)^3$

C. $|-3^3 \div 27|$

D. $9 - 2^5 \cdot 0.5$