

Key Concept and Vocabulary

multiplication

exponent

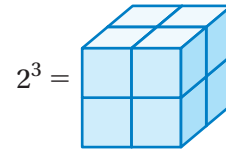
Cubes

$$2 \cdot 2 \cdot 2 = 2^3$$

base



Visual Model



Skill Examples

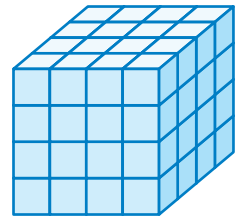
- $2^3 = 2 \cdot 2 \cdot 2 = 8$
- $5^3 = 5 \cdot 5 \cdot 5 = 125$
- $7^3 = 7 \cdot 7 \cdot 7 = 343$
- $9^3 = 9 \cdot 9 \cdot 9 = 729$
- $20^3 = 20 \cdot 20 \cdot 20 = 8000$

Application Example

- How many small cubes are in the stack?

$$4^3 = 4 \cdot 4 \cdot 4 = 64$$

64 small cubes are in the stack.



PRACTICE MAKES PURR-FECT®

Check your answers at BigIdeasMath.com.

Find the value.

- $6^3 = \underline{216}$
- $3^3 = \underline{27}$
- $8^3 = \underline{512}$
- $10^3 = \underline{1000}$
- $12^3 = \underline{1728}$
- $15^3 = \underline{3375}$

Use an exponent to rewrite the expression.

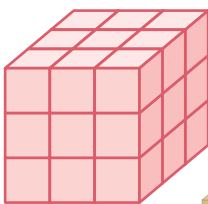
- $16 \cdot 16 \cdot 16 = \underline{16^3}$
- $11 \cdot 11 \cdot 11 = \underline{11^3}$
- $25 \cdot 25 \cdot 25 = \underline{25^3}$

Evaluate the expression when $x = 3$.

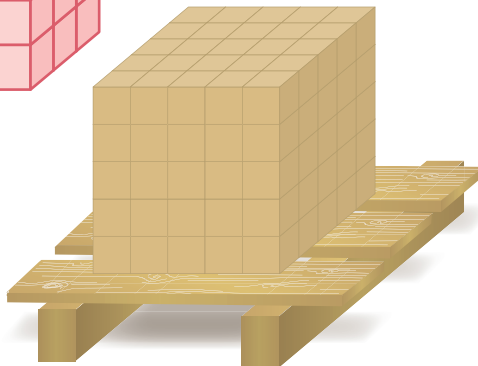
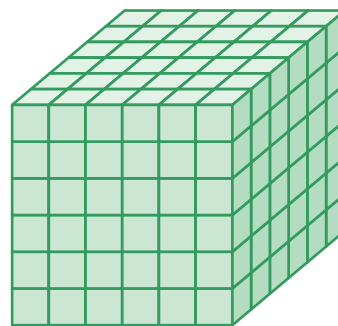
- $x^3 + 1 = \underline{28}$
- $2x^3 = \underline{54}$
- $x^3 - 6x = \underline{9}$

How many small cubes are in the stack?

- $\underline{27}$



- $\underline{216}$



- SHIPPING** How many boxes are stacked on the pallet? 125 boxes