

**STUDY LINK**  
**11.2**

# Comparing Geometric Solids



Name the figures, and label their bases, vertices, and edges.

Geometric Solids			
Name	Bases	Vertices	Edges
<p><b>Example</b></p> <p>cube</p>			
<p>1.</p> <p>Triangular pyramid</p>			
<p>2.</p> <p>cone</p>			
<p>3.</p> <p>Cylinder</p>			

## Study Link 11.1

- ① Guessing - Answers will vary
- ② D is the only one, which folds into a cube without over lap or gaps.

## Study Link 11.3

- ① ⑤ Answers will vary

Practice

$$\textcircled{6} \quad 6\frac{1}{3} = \frac{19}{3} \times \frac{2}{5} = \frac{38}{15} = 2\frac{8}{15}$$

$$\textcircled{7} \quad 10\frac{6}{8} = \frac{86}{8} \times \frac{1}{2} = \frac{86}{16} = 5\frac{6}{16} = 5\frac{3}{8}$$

$$\textcircled{8} \quad \begin{array}{r} 34.1000 \\ - 2.685 \\ \hline 1.315 \end{array}$$

## Study Link 11.4

$$\textcircled{1} \quad \begin{array}{l} A = r^2 \times \pi \\ 3^2 \times 3.14 \\ 9 \times 3.14 \\ 28.26 \\ \times 9 \\ \hline 254.34 \text{ cm}^3 \end{array} \quad \begin{array}{l} 9 \times 6 \times 6 \\ 54 \times 6 \\ 324 \end{array}$$

triangle (24ft)

$$\textcircled{2} \quad 3 \times 2 \div 2 = 3 \times 8 \text{ yds}$$

24 yds

$$A = r^2 \times \pi$$

$$36 \times 3.14$$

$$\begin{array}{r} 36 \\ \hline 1884 \\ 9420 \\ \hline 11304 \\ \times \quad 8 \\ \hline 904.32 \text{ yds} \end{array}$$

$$\textcircled{3} \quad 5 \times 5 \times 6 = 150 \text{ m}$$

triangle

$$5 \times 5 \div 2 = 12.5$$

$$\begin{array}{r} \times 6 \\ \hline 75.0 \\ \text{m} \end{array}$$

Practice

$$\begin{array}{r} \textcircled{4} \quad 4 \frac{1}{3} - \frac{3}{9} \\ + 2 \frac{4}{9} \\ \hline 6 \frac{7}{9} \end{array}$$

$$\textcircled{5} \quad \begin{array}{r} 26 \frac{18}{21} \\ - 1 \frac{1}{3} \frac{7}{21} \\ \hline 1 \frac{11}{21} \end{array}$$

$$\textcircled{6} \quad \begin{array}{r} 10^6 = 1,000,000 \\ \times \quad 6 \\ \hline 6,000,000 \end{array}$$

$$\textcircled{7} \quad \begin{array}{r} 25R9 \\ 23 \overline{) 584} \\ \underline{-46} \downarrow \\ 1214 \\ \underline{-115} \\ 9 \end{array}$$

or  $25 \frac{9}{23}$

Study Link 11.5

The Cotton didn't take up much space because it is mostly air.

# Study Link 11.6

- ① 5 cups > 1 quart = 4 cups
- ② 30 mL = 30 cm<sup>3</sup>
- ③ 1 quart < 1 liter
- ④ 15 pints < 8 quarts = 16 pints
- ⑤ 100 cm<sup>3</sup> < 1 gallon
- ⑥ 10 cups = 5 pints  
(2 cups make a pint)

- ⑦ cubic inches    ⑧ gallons    ⑨ gallons
- ⑩ milliliters    ⑪ cubic centimeters
- ⑫ Capacity (liquid)
- ⑬ volume (solids)

## Practice

⑭ -250

⑮ 685

⑯  $12 \frac{1}{5} + \frac{5}{5} = \frac{6}{5}$

$$\begin{array}{r} 12 \\ 13 \frac{1}{5} + \frac{5}{5} = \frac{6}{5} \\ - 2 \frac{4}{5} \\ \hline 10 \frac{2}{5} \end{array}$$

1	1	2	1	0	2
3	0	0	0	0	0
7	0	0	0	0	1
	6	8	5		

685

⑰  $.48$

$$\begin{array}{r} 8 \overline{) 3.84} \\ - 32 \downarrow \\ \hline 64 \\ - 64 \\ \hline \end{array}$$

# Study Link 11.7

①

$$2 \times 6 = 12 \times 2 = 24$$

$$4 \times 2 = 8 \times 2 = 16$$

$$4 \times 6 = 24 \times 2 = 48$$

$$\underline{88 \text{ in}^2}$$

Finding the area of each side and adding them together

② Yes because volume is different than surface area.

③  $A = \pi \times r^2$

$$3.14$$

$$\times 16$$

$$\underline{50.24}$$

$$3140$$

$$\underline{50.24}$$

$$\times 10$$

$$\underline{502.4 \text{ Volume}}$$

$$\text{cm}^3$$

$$C = \pi \times d$$

$$3.14$$

$$\times 8$$

$$\underline{25.12}$$

$$\times 10$$

$$\underline{251.2}$$

$$\underline{100.48}$$

$$\underline{351.68 \text{ cm}^2}$$

$$\text{Surface Area}$$

$$A = \pi \times r^2$$

$$A = 50.24$$

Then there are two circles

$$50.24$$

$$50.24$$

$$\underline{100.48}$$

④

$$6 \times 6 \times 6 = 36$$

$$\times 6$$

$$\underline{216 \text{ in}^3}$$

$$\text{Volume}$$

$$\boxed{6 \times 6} \text{ one side}$$

$$36$$

$$\times 6 \text{ sides}$$

$$\underline{216 \text{ in}^2}$$

$$\text{Surface Area}$$