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Facts to Know *(cont.)*

Supplementary Angles

Supplementary angles are two adjacent angles whose sum is always 180°, a straight angle.

∠*ABC* is a straight angle.

It measures 180°.
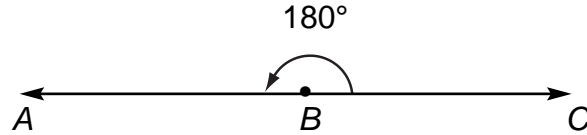
If a line is added at the vertex, adjacent angles are formed. The vertex for ∠*ABD* and ∠*DBC* is B. The common side is ray *BD.* If you added the degrees in ∠*ABD* and ∠*DBC*, the sum would be 180°, a straight angle. (See below left.)
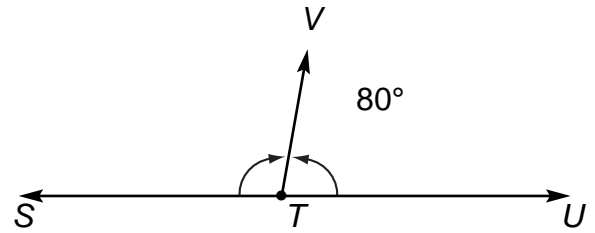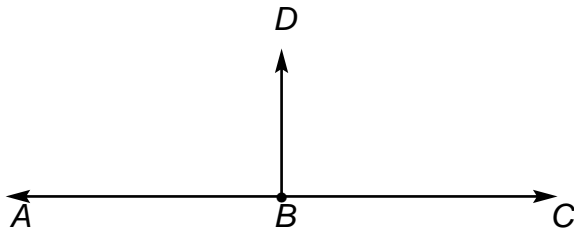

What if you didn't know the number of degrees in one of the supplementary angles? Remember, the sum must equal 180°. Figure the number of degrees in ∠STV (See above right.).

If ∠*STU* is a straight angle (180°) and ∠*VTU* is 80°, then the unknown angle, ∠*STV*, is the difference between 180° and 80°. *Answer: ∠STV is 100°.*

Vertical Angles

When two lines intersect, four angles are formed. The angles that are across, or opposite, from each other are called *vertical angles*. Vertical angles are equal to each other.
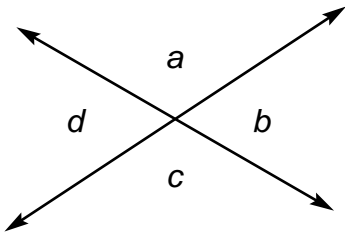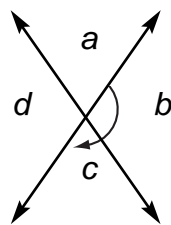

∠*a* and ∠*c* are vertical angles, so they are equal to each other.

∠*d* and ∠*b* are vertical angles, so they are equal to each other, too.

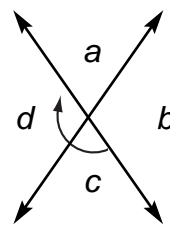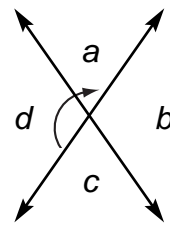When two straight lines intersect, they make four pairs of supplementary angles.
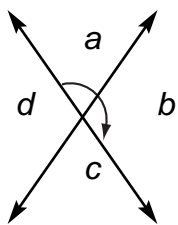
∠*a* + ∠*b* = 180°   ∠*b* + ∠*c* = 180°   ∠*c* + ∠*d* = 180°   ∠*d* + ∠*a* = 180°
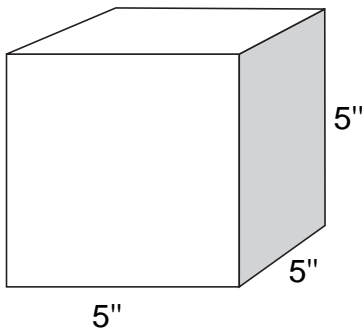
Directions: Use the formulae in this unit to answer the questions.

1. What is the volume of this rectangular solid?

5"

11"

7"
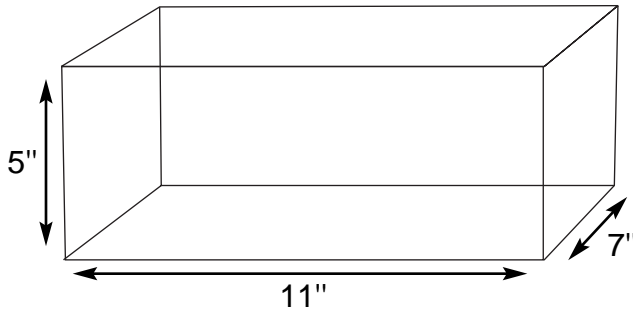
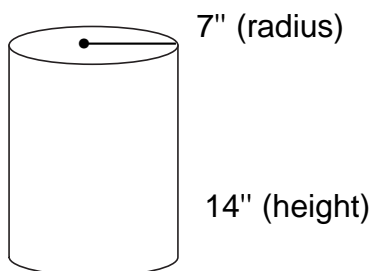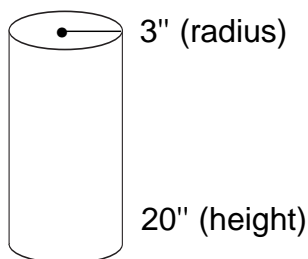*Volume =* _____

2. What is the volume of this cube?

5"

5"

5"

Volume = _____

3. What is the volume of this cylinder? (Round to the nearest inch.)

7" (radius)

14" (height)

Volume = _____

4. What is the volume of this cylinder? (Round to the nearest inch.)

3" (radius)

20" (height)

Volume = _____