

Name: Key

Final Exam Review

Concepts in Math

Mrs. Dunn

Angles

Complimentary angles:

Angles that add up to 90°

Supplementary angles:

Angles that add up to 180°

Example: What is the compliment and supplement of an angle that measures 47° ?

Compliment

$$90 - 47 = 43^\circ$$

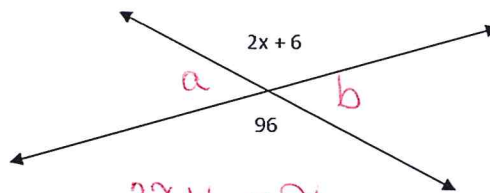
Supplement

$$180 - 47 = 133^\circ$$

Lines and the Angles They Form

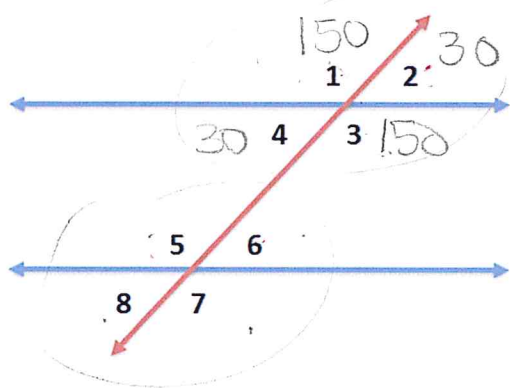
Vertical angles: Angles that are opposite of each other. They are equal.

a & b are vertical angles



$$\begin{array}{r} 2x + 6 = 96 \\ -6 \quad -6 \\ \hline 2x = 90 \\ x = 45^\circ \end{array}$$

Angles formed when parallel lines are cut by a transversal:



Vert. \angle 's are equal

$$\begin{array}{l} \angle 1 = \angle 3 \\ \angle 2 = \angle 4 \\ \angle 5 = \angle 7 \\ \angle 6 = \angle 8 \end{array}$$

Corresponding \angle 's are equal

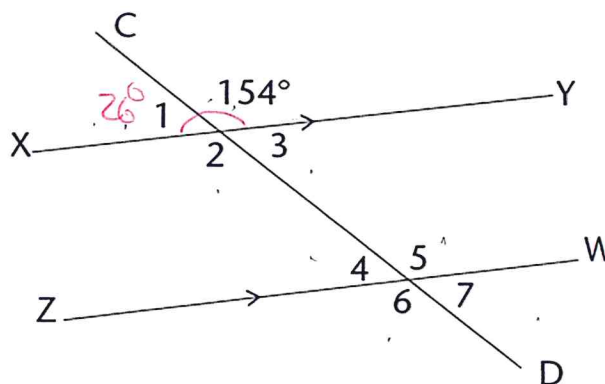
$$\angle 2 \neq \angle 6$$

Alternating Interior \angle 's are =

$$\angle 4 \neq \angle 6$$

Example: Find all angles.

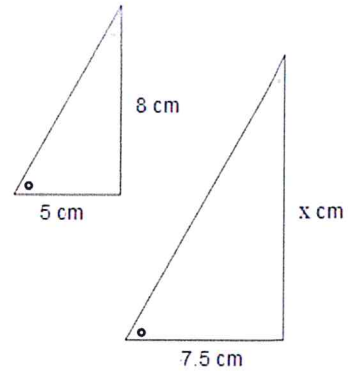
$$\begin{array}{l} \angle 1 = 180 - 154 = 26^\circ \\ \angle 2 = 154^\circ \\ \angle 3 = 26^\circ \\ \angle 4 = 26^\circ \\ \angle 5 = 154^\circ \\ \angle 6 = 154^\circ \\ \angle 7 = 26^\circ \end{array}$$



Similar Triangles

Two triangles where the angles of the triangle are the same but the length of their sides are different are said to be similar.

$$\frac{5}{7.5} = \frac{8}{x}$$

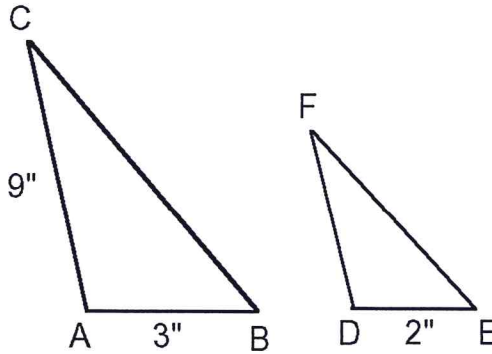


Example: Find side FD.

$$\frac{3}{2} = \frac{9}{FD}$$

$$\frac{3}{3} FD = \frac{18}{3}$$

$$FD = 6''$$

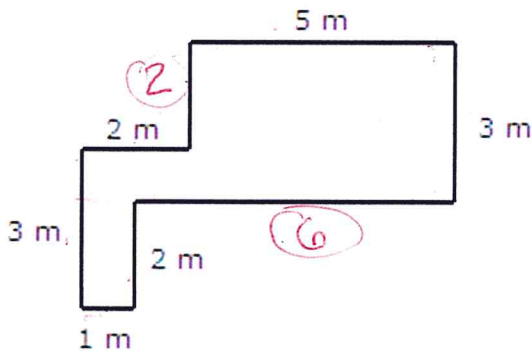


Perimeter

How do you find perimeter?

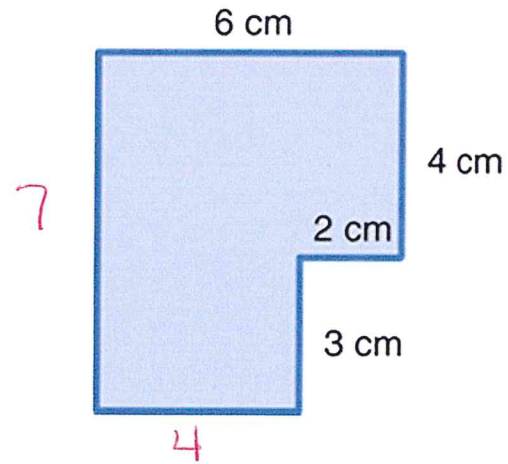
Add the length of all sides

Example: Find the perimeter of each shape.



$$P = 1 + 3 + 2 + 2 + 5 + 3 + 6 + 2$$

$$P = 24 \text{ m}$$



$$P = 4 + 7 + 6 + 4 + 2 + 3$$

$$P = 26 \text{ cm}$$

Area and Volume

Area

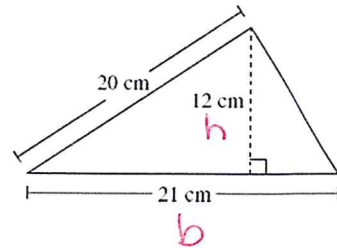
units are square

Triangle:

$$A = \frac{1}{2}bh$$

$$A = \frac{1}{2}(21)(12)$$

$$A = 126 \text{ cm}^2$$

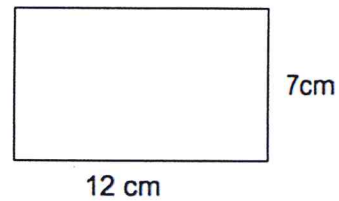


Rectangle:

$$A = bh$$

$$A = 12 \times 7$$

$$A = 84 \text{ cm}^2$$

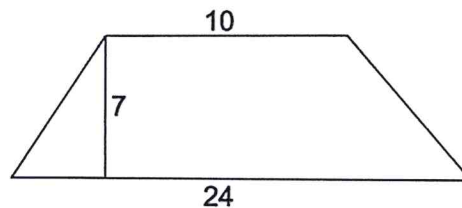


Trapezoid:

$$A = \frac{b_1 + b_2}{2}h$$

$$A = \frac{10 + 24}{2}(7)$$

$$A = 119 \text{ u}^2$$



Volume

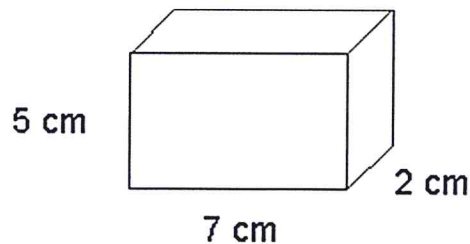
units are cubed

Rectangular Prism:

$$V = lwh$$

$$V = 5 \cdot 7 \cdot 2$$

$$V = 70 \text{ cm}^3$$



Sphere:

$$V = \frac{4}{3}\pi r^3$$

$$V = \frac{4}{3}\pi 216$$

$$V = 288\pi \text{ u}^3$$

