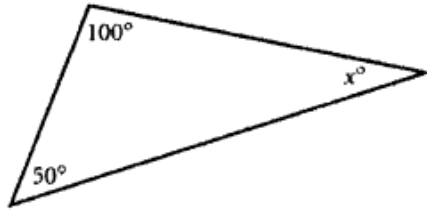# TRIANGLES—GENERAL

80. INTERIOR ANGLES OF A TRIANGLE

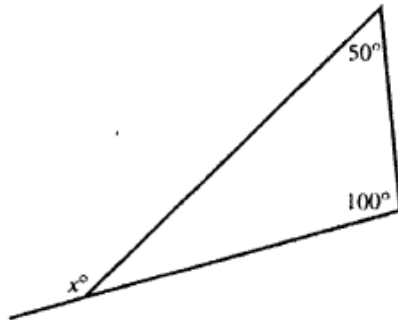The three angles of any triangle **add up to 180°.**

In the figure above, $x + 50 + 100 = 180$, so $x = 30$.

81. EXTERIOR ANGLES OF A TRIANGLE

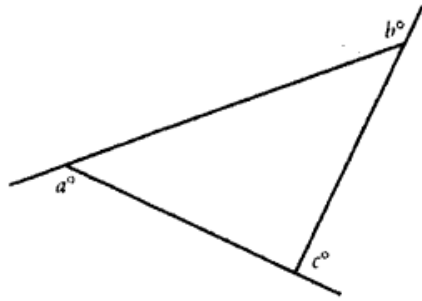An exterior angle of a triangle is equal to the **sum of the remote interior angles.**

In the figure above, the exterior angle labeled $x°$ is equal to the sum of the remote interior angles:
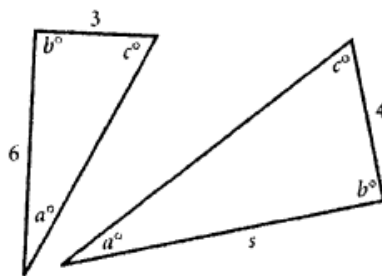
$$x = 50 + 100 = 150$$

The three exterior angles of any triangle add up to 360°.

In the figure above, $a + b + c = 360$.

82. SIMILAR TRIANGLES

Similar triangles have the same shape: **corresponding angles are equal and corresponding sides are proportional.**

The triangles above are similar because they have the same angles. The 3 corresponds to the 4 and the 6 corresponds to the s.
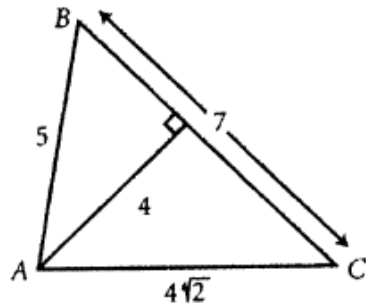
$$\frac{3}{4} = \frac{6}{s}$$

$$3s = 24$$

$$s = 8$$

83. AREA OF A TRIANGLE

$$\text{Area of Triangle} = \frac{1}{2}(\text{base})(\text{height})$$

The height is the perpendicular distance between the side that's chosen as the base and the opposite vertex.

In the triangle above, 4 is the height when the 7 is chosen as the base.

$$\text{Area} = \frac{1}{2}bh = \frac{1}{2}(7)(4) = 14$$