

Triangle

- polygon with three sides
- the sides are line segments

Triangles can be classified by angles

- right

Triangles can be classified by angles

- obtuse

Triangles can be classified by angles


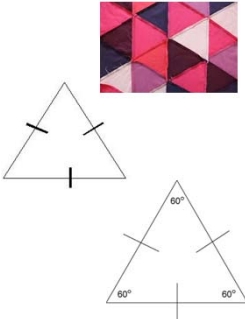
- acute

Triangles can be classified by angles

- right
- obtuse
- acute


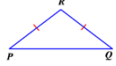
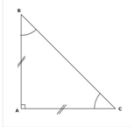
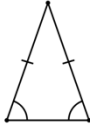

Triangles can be classified by sides

- equilateral


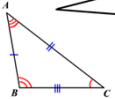

Triangles can be classified by sides

- isosceles


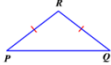
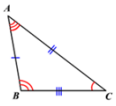
Triangles can be classified by sides

- scalene

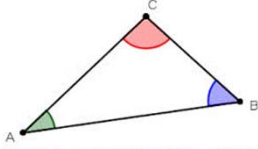




Triangles can be classified by sides

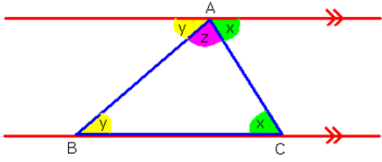
- equilateral
- isosceles
- scalene

- **The sum of the angles in a triangle is 180°.**



$m\angle A + m\angle B + m\angle C = 180$



- So, if you know two angles of a triangle, you can subtract from 180 to find the third.

Similar Figures

- Same shape, but different sizes.

In similar figures

- Corresponding angles are congruent (have the same measure)

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In similar figures

- Corresponding sides are **proportional**.

$$\frac{16}{32} = \frac{22}{44} = \frac{25}{50} \quad \text{or} \quad \frac{32}{16} = \frac{44}{22} = \frac{50}{25}$$

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Pythagorean theorem

In a right triangle, the square of the hypotenuse equals the sum of the squares of the legs.

$a^2 + b^2 = c^2$

The scarecrow in *The Wizard of Oz* got it wrong:

Scarecrow - The Wizard of Oz

"The sum of the square roots of any two sides of an isosceles triangle is equal to the square root of the remaining side. Oh, joy! Oh, rapture! I've got a brain!"

Pythagorean theorem

