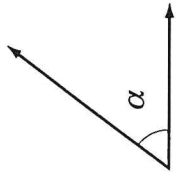
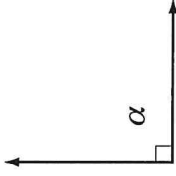


Geometry Facts

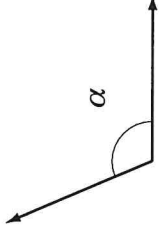
Types of Angles:



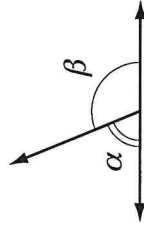
Acute angle
 $0^\circ < \alpha < 90^\circ$



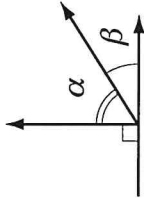
Right angle
 $\alpha = 90^\circ$



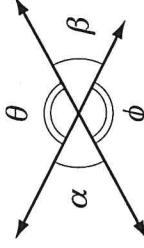
Obtuse angle
 $90^\circ < \alpha < 180^\circ$



Supplementary angles
 $\alpha + \beta = 180^\circ$

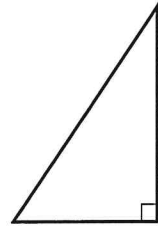


Complementary angles
 $\alpha + \beta = 90^\circ$

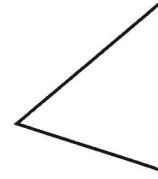


Intersecting lines
 $\alpha = \beta$ and $\phi = \theta$

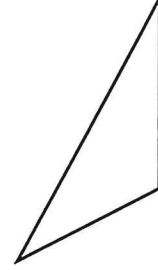
Types of Triangles:



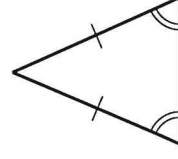
Right Triangle
 One right angle



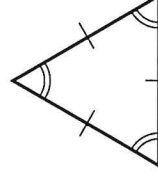
Acute Triangle
 All angles are acute



Obtuse Triangle
 One obtuse angle

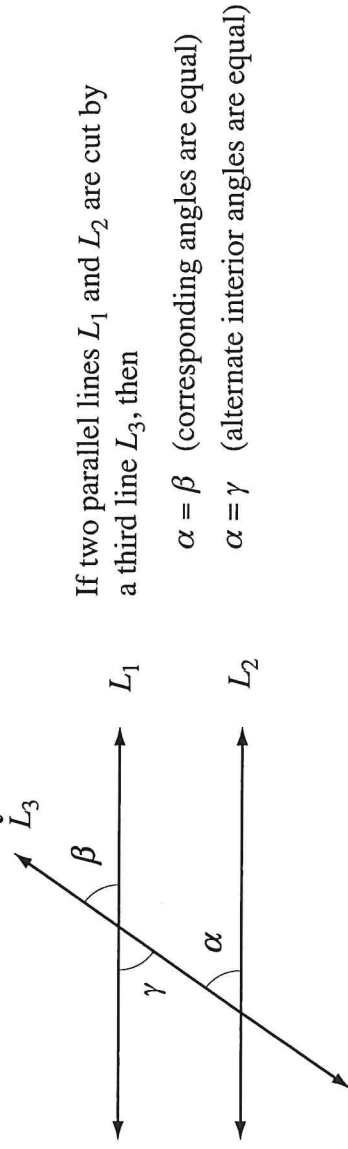


Isosceles Triangle
 At least two sides equal
 At least two angles equal



Equilateral Triangle
 All sides equal
 All angles equal

Two Parallel Lines Cut by a Transversal:



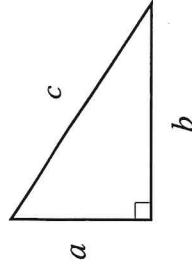
Triangle Angle Sum Theorem

The sum of the measures of the angles in any triangle is 180° .



The Pythagorean Theorem

In any right triangle, the sum of the squares of the lengths of the legs is equal to the square of the length of the hypotenuse.

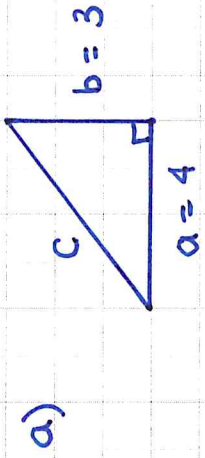


In symbols:

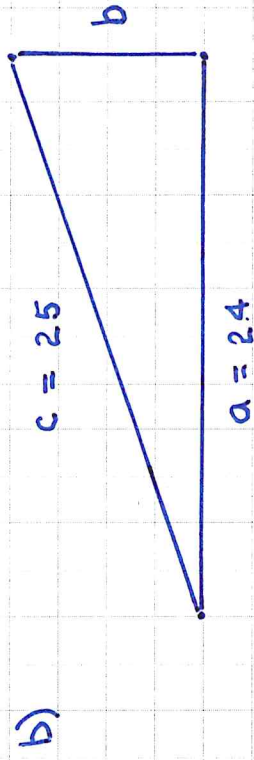
$$a^2 + b^2 = c^2$$

More on the Pythagorean Theorem

Ex. ① Find the missing side lengths:

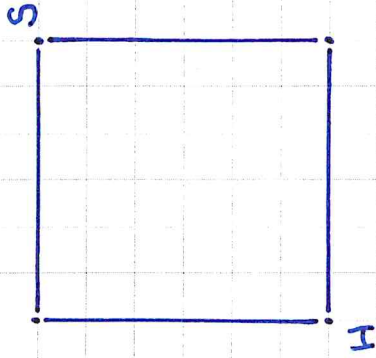


$$a^2 + b^2 = c^2$$



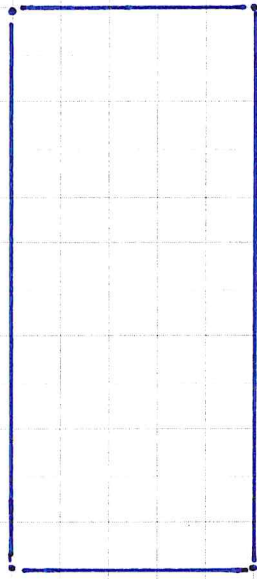
$$a^2 + b^2 = c^2$$

Ex. ② Find the distance from home (H) to second base (S).



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

Ex. ③ Find the length of a diagonal of an American football field.



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