Geometry **8.2 Special Right Triangles** Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Objective***: To use the properties of 45o-45o-90o and 30o-60o-90o triangles*

*Some right triangles have properties that allow us to use shortcuts to find side lengths instead of using the Pythagorean Theorem!*

**45o-45o-90o Triangle Theorem**

1. What is the value of each variable?
	1. 
	2. 
	3.

**30o-60o-90o Triangle Theorem**

1. What is the value of *d* in simplest radical form? What is the value of *f* in simplest radical form?



1. What is the length of the hypotenuse of a 45o-45o-90o triangle with leg lengths ?
2. The length of the hypotenuse of a 45o-45o-90o triangle is 10. What is the length of one leg?
3. A high school softball diamond is a square. The distance from base to base is 60ft. To the nearest foot, how far does a catcher throw the ball from home plate to second base?



1. You plan to build a path along one diagonal of a 100ft by 100ft square garden. To the nearest foot, how long will the path be?
2. What is the height of an equilateral triangle with sides that are 12cm long? Round to the nearest tenth.

HW pgs. 503-505 # 1-29 odd (geo 21 also do #30 & 34)