Math 2
Unit 5 Day 1 Notes – Pythagorean Theorem Review

Name:__Key_____
Date:_____

> ➤ **Review: Simplify each radical**

1. $\sqrt{49}$	2. $\sqrt{121}$	3. $\sqrt{20}$	4. $\sqrt{24}$
$= 7$	$= 11$	$= 2\sqrt{5}$	$= 2\sqrt{6}$
5. $\sqrt{50}$	6. $3\sqrt{40}$	7. $-2\sqrt{300}$	8. $12\sqrt{50}$
$= 5\sqrt{2}$	$= 3 \cdot 2\sqrt{10}$ $= 6\sqrt{10}$	$= -2 \cdot 10\sqrt{3}$ $= -20\sqrt{3}$	$= 12 \cdot 5\sqrt{2}$ $= 60\sqrt{2}$

> ➤ **Solving Right Triangles for Missing Sides**

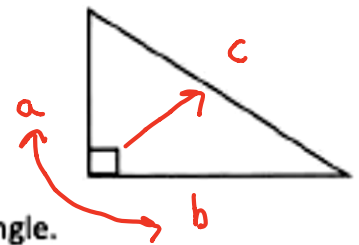> ❖ Recall the Pythagorean Theorem:
> > ✓ $\boxed{a^2 + b^2 = c^2}$

> > ✓ Used to find a missing side of a right triangle.

> > ✓ $\boxed{a}$ and $\boxed{b}$ represent the ____sides____ of the right triangle.

> > ✓ $\boxed{c}$ represents the ____hypotenuse____ of the right triangle.

> ➤ **Examples: Solve for the missing side in each right triangle.**

1.
$a = 3in$, $b = 6in$, $c =$

$a^2 + b^2 = c^2$
$3^2 + 6^2 = c^2$
$\sqrt{45} = \sqrt{c^2}$
$\approx 6.7 in$ or $= 3\sqrt{5}$ in
(nearest tenth)   (simplest radical form)

2.
7ft, 3ft
≈ 7.6 ft or $= \sqrt{58}$ ft

3.
$c = 10cm$, $5cm = a$, $b =$

$a^2 + b^2 = c^2$
$5^2 + b^2 = 10^2$
$-5^2 \quad -5^2$
$b^2 = 75$
≈ 8.7 cm or $= 5\sqrt{3}$ cm

4.
6.5m, 9.9m
≈ 7.5 m or $= \sqrt{55.76}$ m

5. The slide at the playground has a height of 6 feet. The base of the slide measured on the ground is 8 feet. What is the length of the sliding board?

$6^2 + 8^2 = x^2$
$\sqrt{100} = \sqrt{x^2}$
$= 10$ ft.

6 ft, x, 8 ft.

6. The bottom of a 13-foot straight ladder is set into the ground 5 feet away from a wall. If the top of the ladder is leaned against the wall, what is the distance above the ground it will reach?

13 ft, x, 5 ft
$= 12$ ft.

Unit 5 Day 1 CW

Solve for each variable. Round each answer to the nearest tenth. Show all work.

1.	2.
8 c 6	3 x 4

3.	4.
a 26 24	x 6 10

5.	6.
5 13 b	12 15 x

7.	8.
a $\sqrt{137}$ 11	3 6 x 10
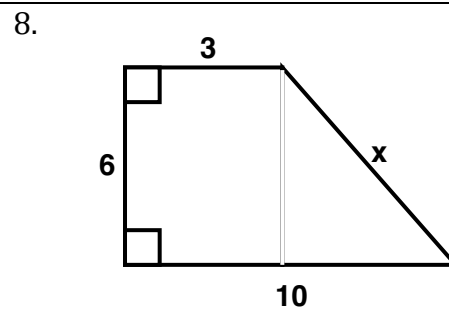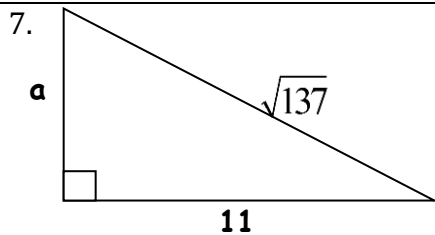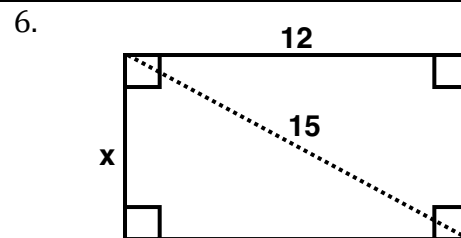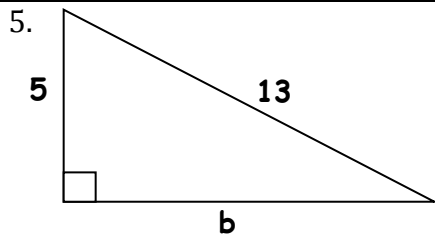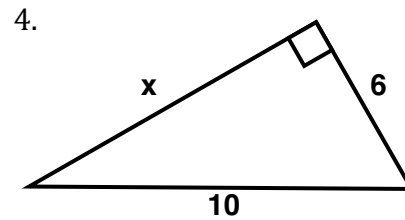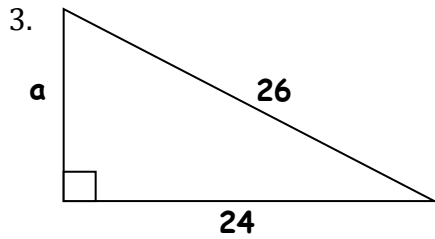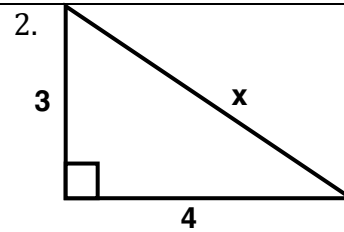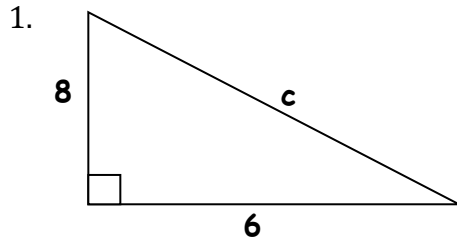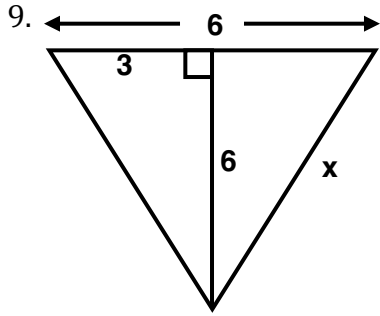
9.	10. Find the length of the diagonal of a square whose side length is 10 inches
11. The length of one of the legs in a right triangle is 4 inches. If the hypotenuse is 12 inches long, what is the length of the other leg?	12. The diagonal crossbar of an old wooden gate has rusted. The gate is rectangular, 3 feet by 4 feet. How long is the crossbar (diagonal)?
13. Find the length of a diagonal of a square enclosure with a perimeter of 16 feet.	14. What is the diagonal measurement of the TV screen shown in the figure below? 44 in 38 in