

# **THE PYTHAGOREAN THEOREM PROBLEM SOLVING**

## **LEARNING GOAL**

1. I can solve problems using the Pythagorean Theorem.

# ASSIGNMENT

Check your Schoology messages for directions for today. Circle which assignment you will be doing today.

- Redo the assignment from Tuesday, by completing the following slides.
- Desmos activity. (You do not need to do any more work on this document, but please either submit this document to Schoology, or submit a screenshot of your work on Desmos.)

# RESPOND TO FEEDBACK ON YOUR WORK

**Directions:** If you have a Schoology message from Mr. Durden with a question about your work, answer it in the space below. If you need to redo the work from Tuesday, go on to the next slide.

4. Given the following values for  $a$  and  $b$ , determine the length of side  $c$ , to 2 decimal places,

a. If  $a = 5$  and  $b = 8$ ,

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

$$\underline{\quad}^2 + \underline{\quad}^2 = c^2$$

$$\underline{\quad} + \underline{\quad} = c^2$$

$$\underline{\quad} = c^2$$

$$\sqrt{\quad} = \sqrt{c^2}$$

$$\underline{\quad} = c$$

b. If  $a = 7$  and  $b = 4$ ,

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

$$\underline{\quad}^2 + \underline{\quad}^2 = c^2$$

$$\underline{\quad} + \underline{\quad} = c^2$$

$$\underline{\quad} = c^2$$

$$\sqrt{\quad} = \sqrt{c^2}$$

$$\underline{\quad} = c$$

c. If  $a = 5$  and  $b = 5$ ,

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

$$\underline{\quad}^2 + \underline{\quad}^2 = c^2$$

$$\underline{\quad} + \underline{\quad} = c^2$$

$$\underline{\quad} = c^2$$

$$\sqrt{\quad} = \sqrt{c^2}$$

$$\underline{\quad} = c$$

d. If  $a = 2$  and  $b = 10$ ,

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

$$\underline{\quad}^2 + \underline{\quad}^2 = c^2$$

$$\underline{\quad} + \underline{\quad} = c^2$$

$$\underline{\quad} = c^2$$

$$\sqrt{\quad} = \sqrt{c^2}$$

$$\underline{\quad} = c$$

5. A student performed the following steps using the Pythagorean Theorem. **Circle** the step where the student made an error and write the corrected solution (including all steps) to the right of the student's work. Use the following example to help you answer the upcoming questions.

Eg: If  $a = 4$  and  $b = 6$

$$4^2 + 6^2 = c^2$$

$$\textcircled{8 + 12 = c^2}$$

$$20 = c^2$$

$$\sqrt{20} = \sqrt{c^2}$$

$$4.47 = c$$

Corrected Solution:

$$4^2 + 6^2 = c^2$$

$$16 + 36 = c^2$$

$$52 = c^2$$

$$\sqrt{52} = \sqrt{c^2}$$

$$7.21 = c$$

\*Refer to example on previous page.

a. If  $a = 5$  and  $b = 8$

Corrected Solution:

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

$$5^2 + 8^2 = c^2$$

$$13 = c^2$$

$$\sqrt{13} = \sqrt{c^2}$$

$$3.61 = c$$

b. If  $a = 2$  and  $b = 9$

Corrected Solution:

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

$$2^2 + 9^2 = c^2$$

$$4 + 18 = c^2$$

$$22 = c^2$$

$$\sqrt{22} = \sqrt{c^2}$$

$$4.69 = c$$

c. If  $a = 3$  and  $b = 6$

Corrected Solution:

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

$$3^2 + 6^2 = c^2$$

$$9 + 36 = c^2$$

$$45 = c^2$$

$$\sqrt{45} = \sqrt{c^2}$$

$$45 = c$$

d. If  $a = 10$  and  $b = 10$

Corrected Solution:

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

$$10^2 + 10^2 = c^2$$

$$10 + 10 = c^2$$

$$20 = c^2$$

$$\sqrt{13} = \sqrt{c^2}$$

$$10 = c$$