"I know what we're going to do today."

1) Bell Ringer: page 73
2) Go over homework

3) Lesson 4: Pythagorean Theorem word problems

4) Practice

5) homework: finish practice worksheet 1-10

May 9-3:48 PM

$1, 1, \sqrt{2}$

$1^2 + 1^2 \quad (\sqrt{2})^2$

$1 + 1$

$2 = 2$

$\sqrt{2} \times \sqrt{2} = \sqrt{4}$

2

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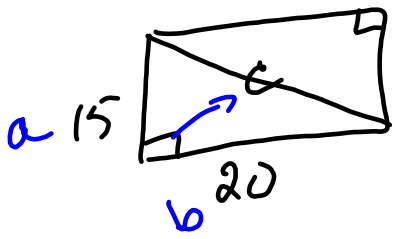
Pythagorean Theorem-

Using Pythagorean Theorem to solve real world problems.

1) The length of a diagonal measures the size of a TV screen. Tanya's TV screen is 20 inches long and 15 inches wide. What is the length of the diagonal of Tanya's TV screen?

Step 1: Draw a rectangle to represent the TV screen.



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

$15^2 + 20^2 = c^2$

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Step 2: Draw a diagonal to divide the TV screen into 2 right triangles. Label the width and length as the 2 legs of the right triangle.

Step 3: Substitute the length of the legs into the Pythagorean Theorem.

Step 4: Compute your answer.

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

$20^2 + 15^2 = c^2$

$400 + 225 = c^2$

$\sqrt{625} = \sqrt{c^2}$

$25 \text{ in} = c$

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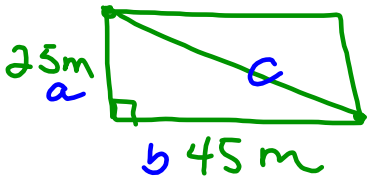
2) Jose's yard is rectangular in shape and measures 25 meters by 45 meters. What is the distance from the corner to the opposite corner?



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

$25^2 + 45^2 = c^2$

$625 + 2025 = c^2$

$\sqrt{2650} = \sqrt{c^2}$

$51.5\text{ m} \approx c$

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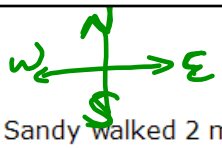
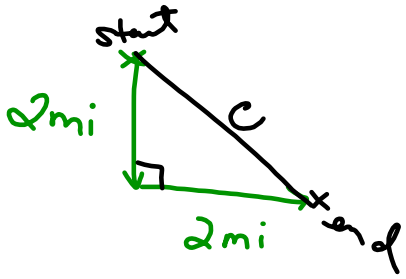


3) Sandy walked 2 miles south and then walked 2 miles east. How far was Sandy from her starting point?



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

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

$4 + 4 = c^2$

$\sqrt{8} = \sqrt{c^2}$

$\sqrt{8} = c$

$\approx 2.8\text{ mi}$

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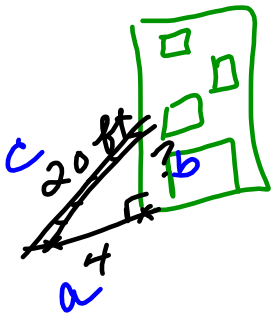
4) A painter positions a 20-foot ladder against a house so that the base of the ladder is 4 feet from the house. About how high does the ladder reach on the side of the house? (make a drawing so that the ladder, the ground, and the side of the house form a right angle)



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

$4^2 + b^2 = 20^2$

$16 + b^2 = 400$

$-16 \quad -16$

$\sqrt{b^2} = \sqrt{384}$

$b = 19.6$ ft

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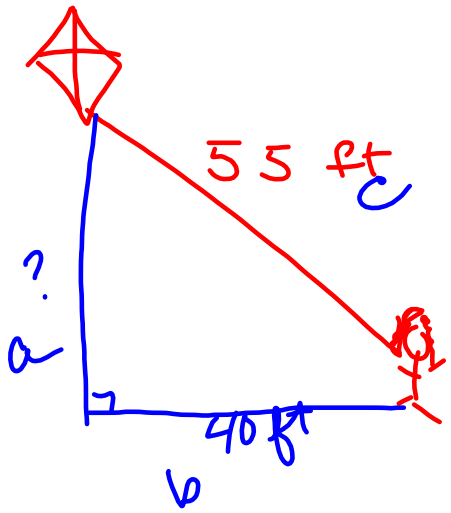
5) Kendra is flying a kite. The length of the kite string is 55 feet and she is positioned 40 feet away from beneath the kite. About how high is the kite?



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

$a^2 + 40^2 = 55^2$

$a^2 + 1600 = 3025$

$-1600 \quad -1600$

$\sqrt{a^2} = \sqrt{1425}$

$a \approx 37.7$ ft

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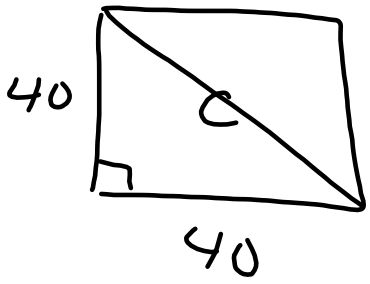
6) The floor exercise mat measures 40 feet by 40 feet. Find the measure of the diagonal.



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

$40^2 + 40^2 = c^2$

$1600 + 1600 = c^2$

$\sqrt{3200} = \sqrt{c^2}$

$56.6 \text{ ft} \approx c$

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7) Brandon hikes 7 miles south and 4 miles west. How far is he from his starting point? Round to the nearest tenth.

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8) If the sides of square measure 6 inches, what is the length of the diagonal of the square?

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Jan 4-11:12 AM