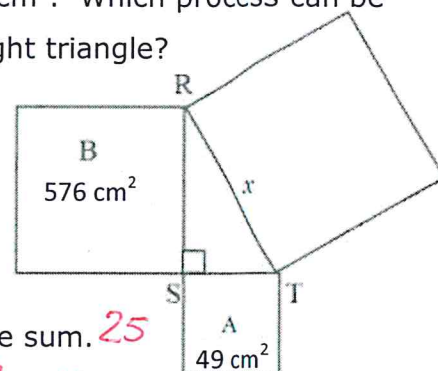
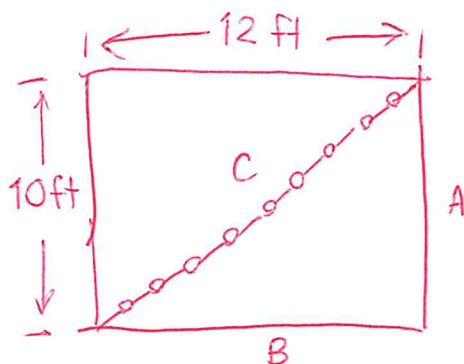


Pythagorean Theorem Test Review

1. A right triangle RST is drawn below. A square is drawn onto each side of the triangle. The area of square A is 49cm^2 and the area of square B is 576cm^2 . Which process can be used to determine the length, x , of the indicated side of the right triangle?



- A. Find the sum of 576 and 49. 625
- B.** Find the sum of 576 and 49 then take the square root of the sum. 25
- C. Find the square roots of 576 and 49 then subtract. $24 - 7 = 17$
- D. Find the difference of 576 and 49 then take the square root of the difference. 22.93648
2. Which measures could be the side lengths of a right triangle?
- F** 7 cm, 21 cm, 25 cm $C = 22.14$
- G** 30 cm, 72 cm, 78 cm $C = 78$
- H** 3 cm, 5 cm, 9 cm $C = 5.83$
- J** 7 cm, 25 cm, 26 cm $C = 25.96$
3. Linda is hanging Christmas lights diagonally across her patio. The dimensions of her patio are 10 feet by 12 feet. If she plans to hang lights across both diagonals, about how many feet of lights will she need?



$$C = \sqrt{A^2 + B^2}$$

$$C = \sqrt{10^2 + 12^2}$$

$$C = \sqrt{100 + 144}$$

$$C = \sqrt{244}$$

$$C = 15.62 \text{ ft}$$

$$2C = 2(15.62)$$

$$2C = 31.24 \text{ ft}$$

$\therefore$ she will need 31.24 ft of lights

Pythagorean Theorem Test Review

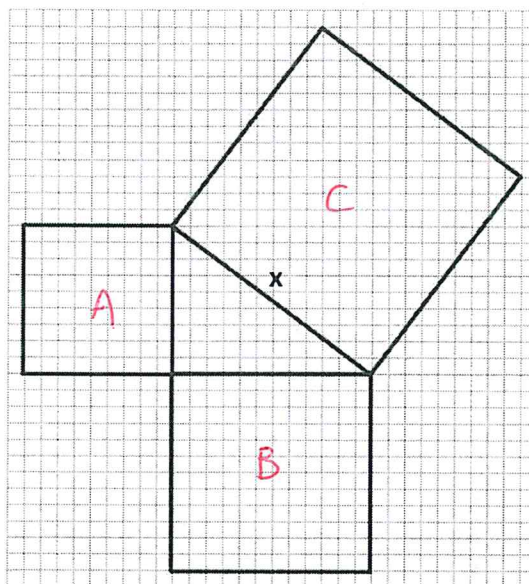
4. Write an equation that could be used to solve for x .

$$\text{Let } x = C$$

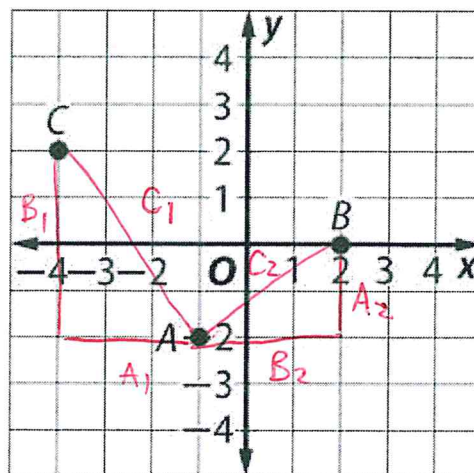
$$A^2 + B^2 = C^2$$

$$C = \sqrt{A^2 + B^2}$$

$$x = \sqrt{A^2 + B^2}$$



5. The map shows two ways to cross a river. Both routes begin at River Road located at point A. One route is to take the ferry to point B and the other route is to take the bridge to point C. Each unit on the map represents 1.2 miles. How much farther is it to travel across the river on the bridge than to take the ferry? Round to the nearest tenth, if necessary.



$$3.6^2 = 12.96$$

$$4.8^2 = 23.04$$

$$36.00$$

$$C_1 = \sqrt{A_1^2 + B_1^2}$$

$$C_1 = \sqrt{(3.6)^2 + (4.8)^2}$$

$$C_1 = \cancel{12} \text{ mi } 6 \text{ mi}$$

$$C_2 = \sqrt{(2.4)^2 + (3.6)^2}$$

$$C_2 = \sqrt{5.76 + 12.96}$$

$$C_2 = \sqrt{18.72}$$

$$C_2 = 4.33 \text{ mi}$$

$$\Delta (C_2 - C_1) = 1.67 \text{ mi}$$

$\therefore$ The difference is 1.67 miles, Therefore it is 1.67 miles farther to travel across the river.

Pythagorean Theorem Test Review

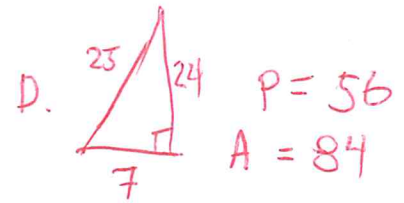
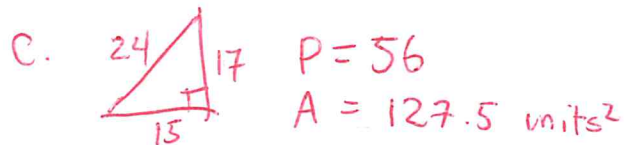
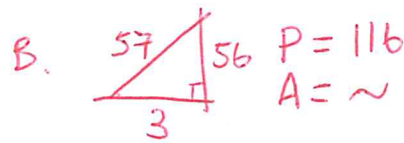
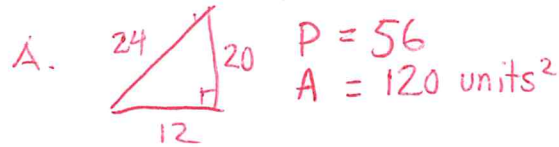
6. Which right triangle has a perimeter of 56 and an area of 84?

A. 12, 20, 24

B. ~~3, 56, 57~~

C. 15, 17, 24

D. 7, 24, 25



7. Tai sailed east from the marina for 48 miles and then sailed south for 14 miles, as shown in the diagram. What is the shortest distance Tai can sail to return to the marina?

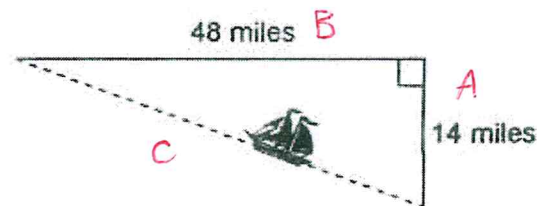
$$C^2 = A^2 + B^2$$

$$C^2 = 14^2 + 48^2$$

$$C^2 = 196 + 2304$$

$$C^2 = 2500$$

$$C = 50 \text{ mi}$$



8. Jessica divided a trapezoid into a square and a right triangle. What is the perimeter of the trapezoid?

↳ polygon w. 2 || sides

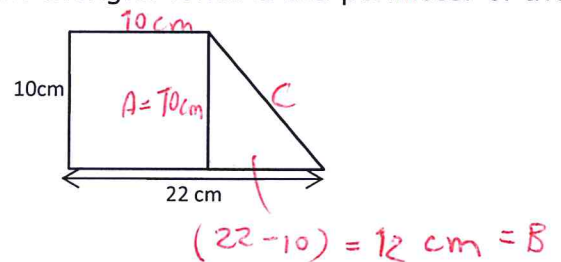
$$C^2 = \sqrt{A^2 + B^2}$$

$$C^2 = \sqrt{10^2 + 12^2}$$

$$C^2 = \sqrt{100 + 144}$$

$$C^2 = \sqrt{244}$$

$$C = 15.62 \text{ cm}$$



$$\therefore P = S_1 + S_2 + S_3 + S_4$$

$$P = 10 + 10 + 22 + 15.62$$

$$P = 57.62 \text{ cm}$$

Pythagorean Theorem Test Review

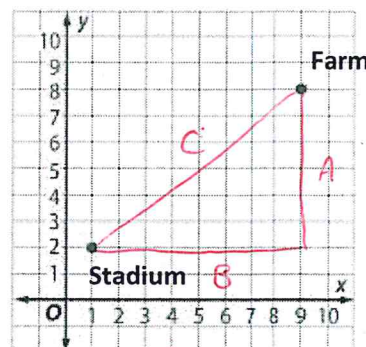
9. Jenny's coach is evil. They live in the country. To help prep them for basketball, their coach makes them run from the stadium to the FFA farm. Each unit on the map is a quarter of a mile. If Jenny has to run to the farm then back, how many miles will she run?

If Jenny can run about 8 miles an hour, how long will it take her to get back to the stadium?

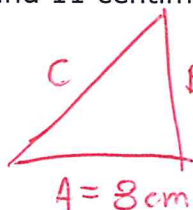
$$1 \text{ unit} = 0.25 \text{ mi} \quad \rightarrow \quad T = D \div V = 5 \text{ miles} \div 8 \text{ mi/h} = 0.625 \text{ hours} = 37.5 \text{ min}$$

$$2C = ?$$

$$\begin{aligned} C^2 &= A^2 + B^2 \\ C^2 &= 6^2 + 8^2 \\ C^2 &= 36 + 64 \\ C^2 &= 100 \text{ units}^2 \\ C &= 10 \text{ units} \\ 2C &= 20 \text{ units} \end{aligned}$$



10. What is the perimeter, in centimeters, of a right triangle that has leg lengths of 8 centimeters and 11 centimeters? Round to the nearest tenth centimeter.



$$C^2 = 8^2 + 11^2$$

$$C^2 = 64 + 121$$

$$C^2 = 185$$

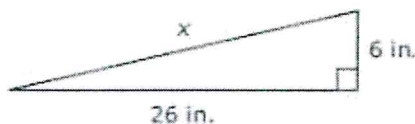
$$\therefore C = 13.6 \text{ cm}$$

$$P = S_1 + S_2 + S_3$$

$$P = A + B + C$$

$$P = 32.6 \text{ cm}$$

11. The diagram below is model of a bike ramp they plan to build at a skate park. If they are trying to determine the length of the REAL ramp, how long will it be?



SCALE:

1 in = .5 foot

$$x^2 = \sqrt{6^2 + 26^2}$$

$$x^2 = \sqrt{36 + 676}$$

$$x^2 = \sqrt{712}$$

$$x = 26.68 \text{ in} \times \frac{0.5 \text{ ft}}{1 \text{ in}} = 13.34 \text{ ft}$$

$\therefore$ The length of the REAL ramp is 13.34