Lesson 2 Practice Questions

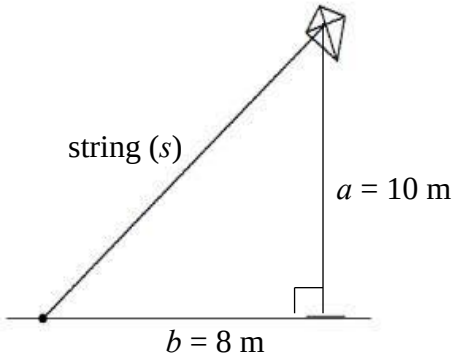
Basic Problem Solving Practice

1. Jason and Sam are flying a kite. The kite is 10 m above Jason's feet. Sam is on the ground, 8 m away from Jason, holding the kite's string. How long is the kite's string?

Step 1: Identify the given and the required values.

- *The distance from Jason to the kite is 10 m.*
- *The distance from Jason to Sam is 8 m.*
- *The length of the hypotenuse, the distance from Sam to the kite, is unknown.*

Step 2: Draw and label the diagram.



Steps 3 and 4: Write the formula, substitute known values, and solve.

$$a^2 + b^2 = s^2$$
$$10^2 + 8^2 = s^2$$
$$100 + 64 = s^2$$
$$164 = s^2$$
$$12.8 = s$$

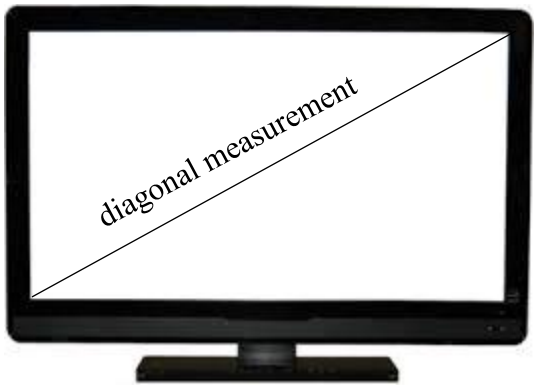
The length of the string is approximately 12.8 m.

Step 5: Review the answer.

The string is the hypotenuse, which is the longest side of the triangle. As such, the answer is reasonable.

Basic Problem Solving Practice #2

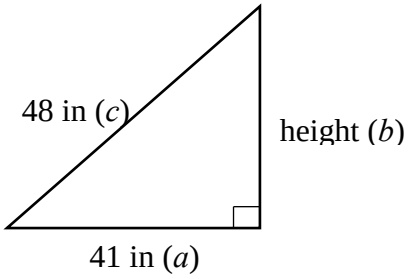
2. A TV screen is advertised by its diagonal measurement. The width of the screen on a 48 inch TV is 41 inches. What is the height of the screen, to the nearest inch?



Step 1: Identify the given and the required values.

- *The width of the screen is 41 inches.*
- *The diagonal measurement of the screen is 48 inches.*
- *The height of the screen is the unknown.*

Step 2: Draw and label the diagram.



Steps 3 and 4: Write the formula, substitute known values, and solve.

$$a^2 + b^2 = c^2$$
$$41^2 + b^2 = 48^2$$
$$1681 + b^2 = 2304$$
$$b^2 = 2304 - 1681$$
$$b^2 = 623$$
$$b = 24.96$$

The height of the TV's screen is approximately 25 inches.

Step 5: Review the answer.

The height of the TV is shorter than the hypotenuse. As such, the answer is reasonable.