

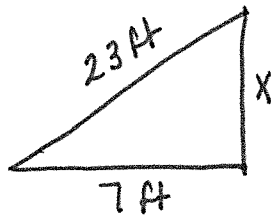
# Key

Quiz Review (Quiz is tomorrow - Answers will be on the blog tonight)

Name: \_\_\_\_\_

I can use pythagorean to find the missing side of a triangle

1. The bottom of a ladder is placed 7 feet from the base of a building's wall. If the ladder is 23 feet long, how high on the wall will the ladder reach? Draw a diagram.

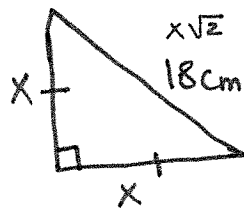


$$\begin{aligned} a^2 + b^2 &= c^2 \\ x^2 + 49 &= 529 \\ x^2 &= 480 \\ \mathbf{x} &= \mathbf{21.9} \end{aligned}$$

2. If the right triangle shown is an isosceles triangle with a hypotenuse that measures 18 cm, what would be the length of each leg be to the nearest tenth of a cm? Draw a diagram

2) SRT  
$$x = \frac{18(\sqrt{2})}{\sqrt{2}(\sqrt{2})}$$

$$\begin{aligned} \mathbf{x} &= \mathbf{9\sqrt{2}} \\ \mathbf{x} &= \mathbf{12.73} \end{aligned}$$



exactly the same.

Two ways:  
1) pythagorean theorem

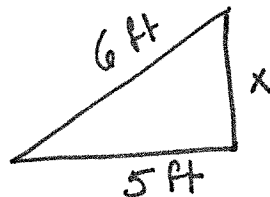
$$x^2 + x^2 = 324$$

$$2x^2 = 324$$

$$x^2 = 162$$

$$\mathbf{x} = \mathbf{12.73}$$

3. Door A 6 foot board rests under a doorknob and the base of the board is 5 feet away from the bottom of the door. Approximately how high above the ground is the doorknob? Draw a diagram and Round your answer to the nearest tenth.

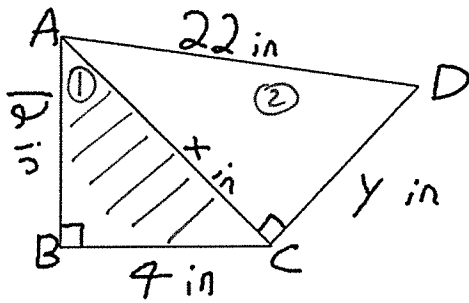


$$25 + x^2 = 36$$

$$x^2 = 11$$

$$\mathbf{x} = \mathbf{3.32}$$

4. Solve for  $x$  and  $y$ . Leave your answer in simplest radical form.



$$\textcircled{1} 144 + 16 = x^2$$

$$160 = x^2 \quad / \quad x = 12.65$$

$$x = \sqrt{160} = \sqrt{16 \cdot 10} = 4\sqrt{10}$$

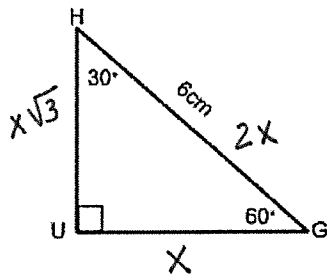
$$\textcircled{2} 160 + y^2 = 484$$

$$y^2 = 324 \quad / \quad y = \sqrt{324} = 18$$

I can use special right triangles properties to find the missing side of a triangle

5. Find the missing side lengths in the special right triangle below. Leave your answer in simplest radical form.

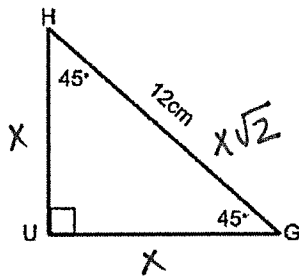
a.



$$HU = 3\sqrt{3} \text{ cm}$$

$$UG = \frac{6}{2} = 3 \text{ cm}$$

b.



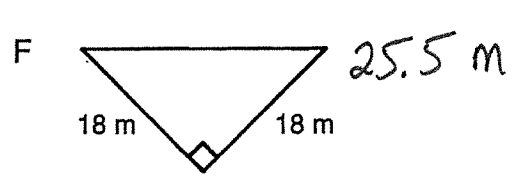
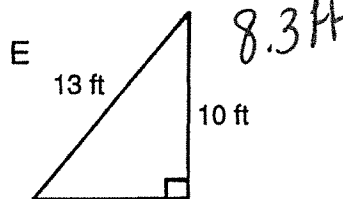
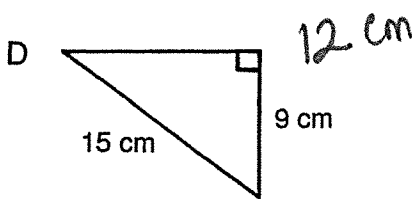
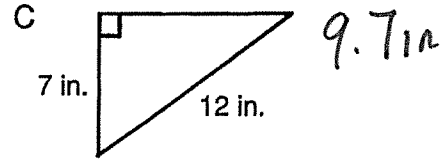
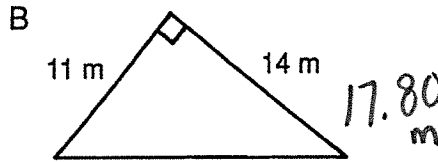
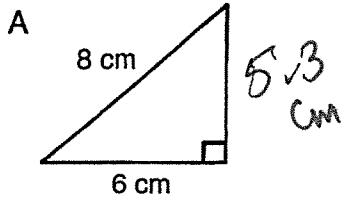
$$HU = \frac{12(\sqrt{2})}{\sqrt{2}(\sqrt{2})} = 6\sqrt{2} \text{ cm}$$

$$UG = 6\sqrt{2} \text{ cm}$$

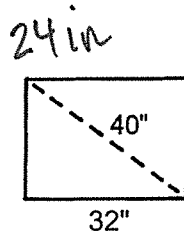
# What Relation Is a Doorstep to a Doormat?

Round each answer to the nearest tenth (if necessary). Cross out the box containing each answer. When you finish, write the letters from the remaining boxes in the spaces at the bottom of the page.

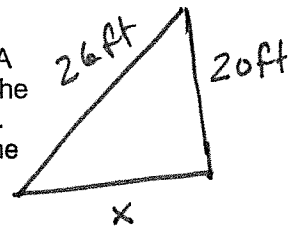
① For each right triangle, find the length of the side that is not given.



② Yuki just bought a big-screen TV set. The screen has a diagonal measure of 40 in. If the screen is 32 in. wide, how high is it?



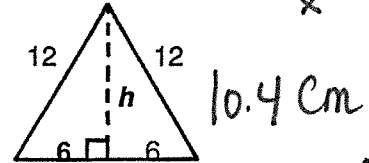
③ The mast of a sailing ship is 20 ft tall. A rope is stretched 26 ft from the top of the mast to a cleat on the deck of the ship. How far is the cleat from the base of the mast?



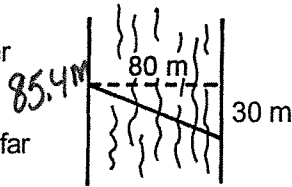
④ A 25-foot ladder is leaned against a wall. If the base of the ladder is 7 ft from the wall, how high up the wall will the ladder reach?

24 ft

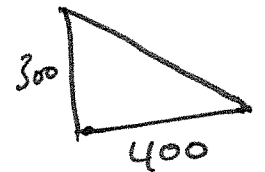
⑤ Each side of an equilateral triangle measures 12 cm. Find the height,  $h$ , of the triangle.



⑥ Across a 30-meter river, the current carried him 30 m downstream. How far did he swim?



⑦ Two jets left an airport at the same time. One traveled east at 300 miles per hour. The other traveled south at 400 miles per hour. How far apart were the jets at the end of an hour?



<del>PL</del> 85.4 m	<del>DO</del> 12 cm	AS 9.8 cm	<del>OR</del> 24 in.	<del>MA</del> 500 mi	TE 26 in.	<del>AM</del> 5.3 cm	<del>RU</del> 10.4 cm	PF 520 mi
<del>ON</del> 25.5 in.	<del>AR</del> 9.4 in.	<del>UN</del> 17.8 m	<del>PA</del> 16.6 ft	TH 87.1 m	<del>IN</del> 9.7 in.	<del>AT</del> 24 ft	ER 18.5 ft	<del>AN</del> 8.3 ft

A S T E P F A R T H E R

A step farther.

