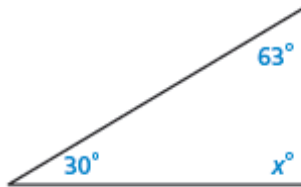


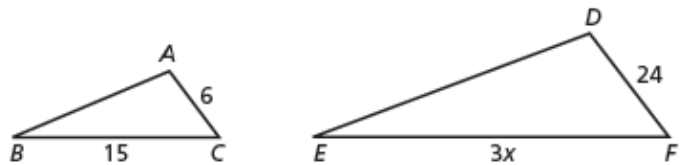
Warm-up:

1. What is the value of x ?



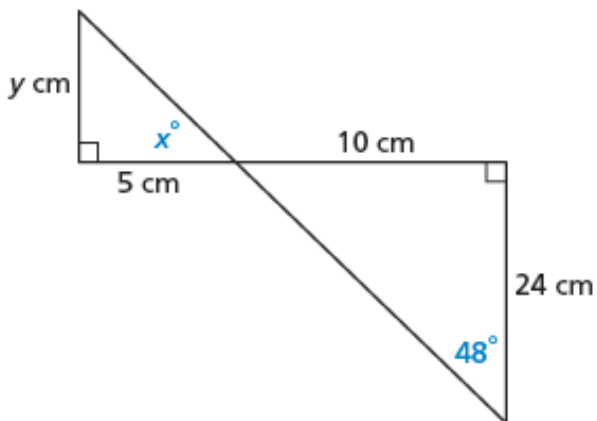
- A. 30°
- B. 63°
- C. 87°
- D. 93°

2. Triangle ABC is similar to triangle DEF .
What is the value of x ?



- F. 15
- G. 20
- H. 30
- J. 60

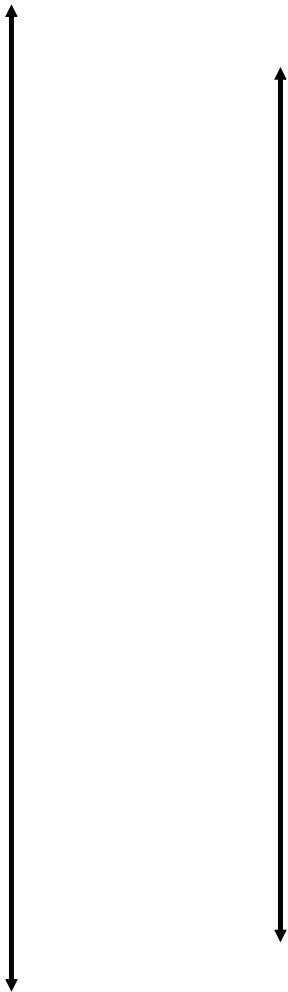
Think scale factor.... "6 times what is 24?"



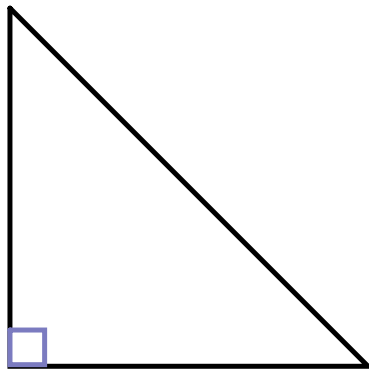
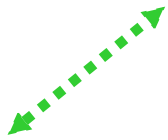
- 3. What is the measure of angle x ? _____
- 4. What is the measure of side length y ? _____

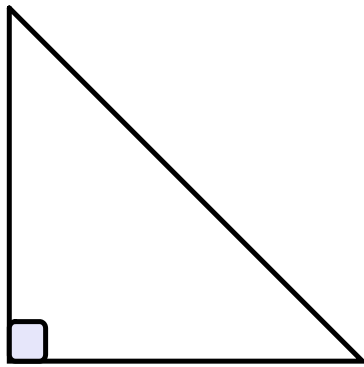
Create Your Perfect
Square Number Line Down
the Side of Your Paper

(0-20, 25)

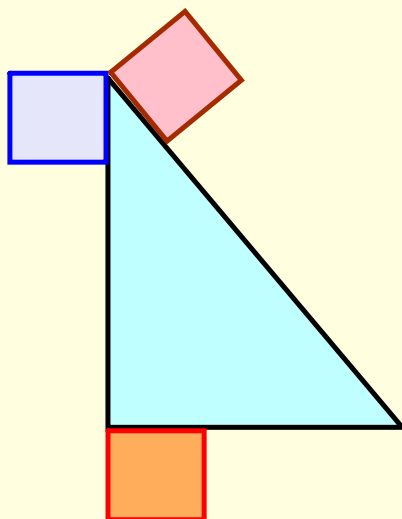


Longest Side
Leg Leg
Hypotenuse





How to determine the length of each side of this right triangle...



Proof of Pythagorean Theorem



This statue of Pythagoras is located in the Pythagorion Harbor on the island of Samos.

Who is Pythagoras?



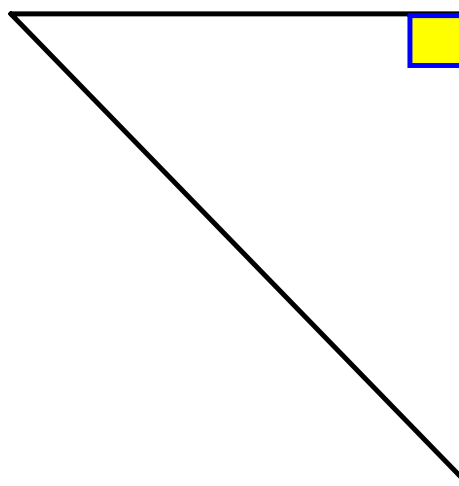
<http://www.brainpop.com/math/geometryandmeasurement/pythagoreanththeorem/>

What happens if it doesn't come out "clean"?

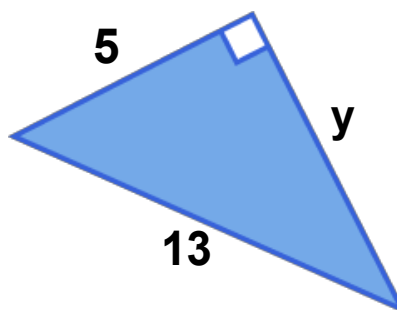
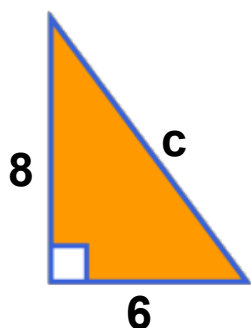
Think of it as a trip - you go East 5 miles - South 6 Miles..How far have you traveled?

What if you take a short cut home, though?

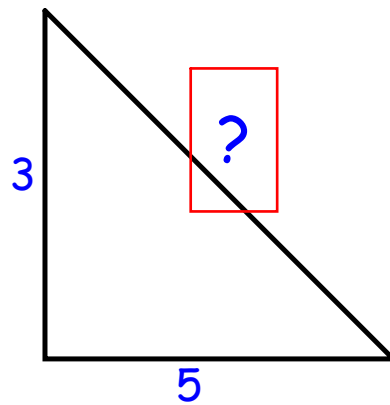
How many miles did you save?

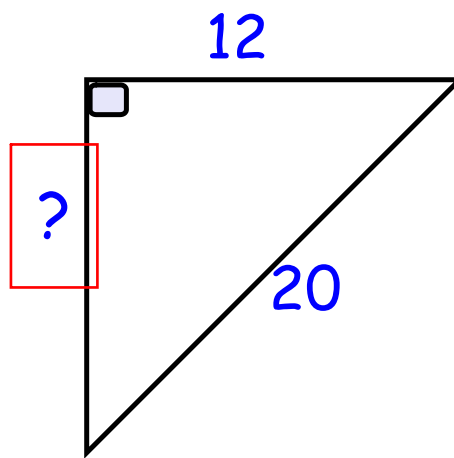


Find the missing lengths

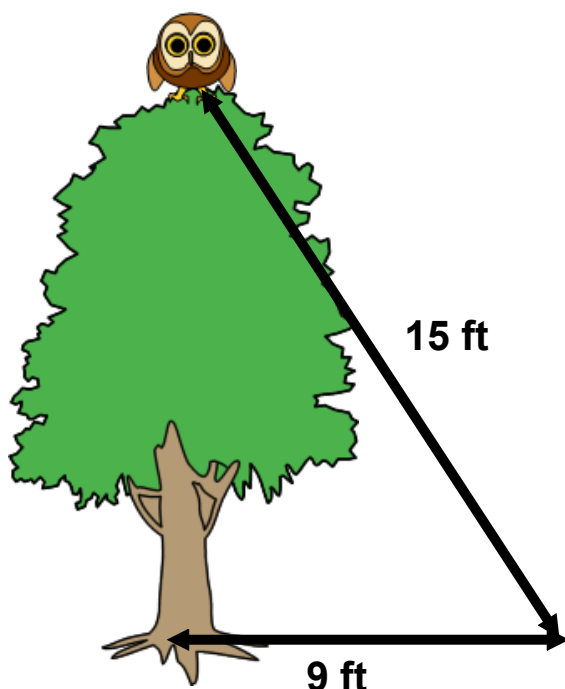


What happens if it doesn't come out "clean"?



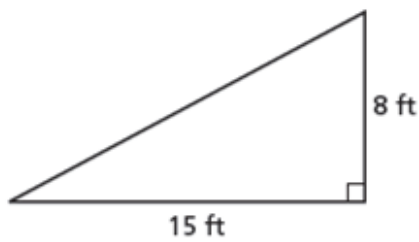


How high off the ground is Ollie the owl?

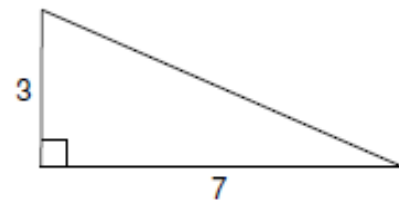


Find the length of the missing side. Approximate square roots of non-perfect squares to the nearest tenth without using a calculator.

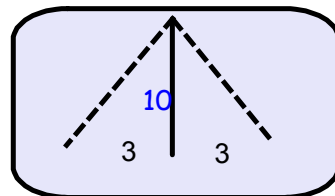
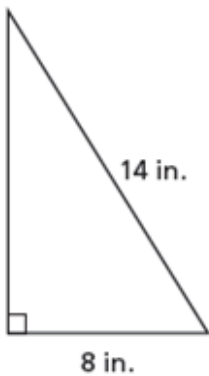
1.



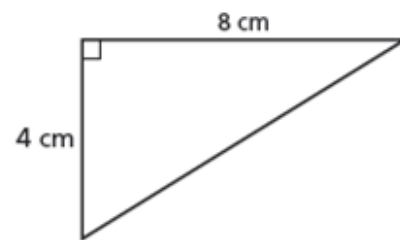
2.



3.



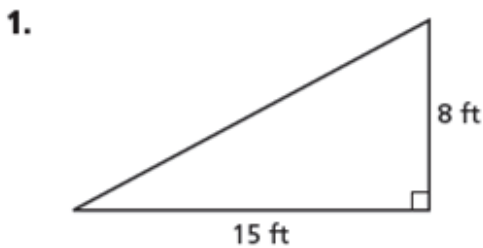
4.



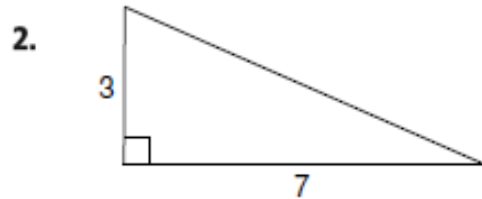
5. A utility pole 10 m high is supported by two guy wires. Each guy wire is anchored 3 m from the base of the pole. How many meters of wire are needed for the guy wires?

6. A 12 foot-ladder is resting against a wall. The base of the ladder is 2.5 feet from the base of the wall. How high up the wall will the ladder reach?

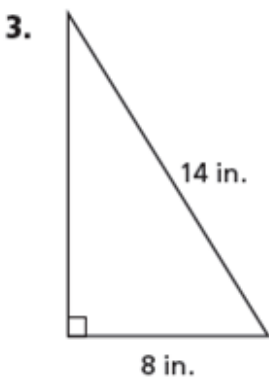
Find the length of the missing side. Approximate square roots of non-perfect squares to the nearest tenth without using a calculator.



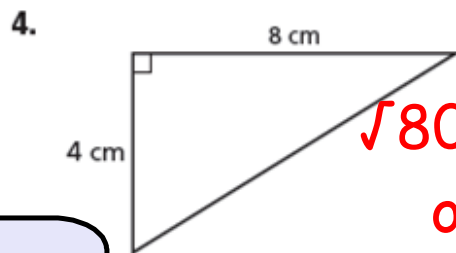
17ft



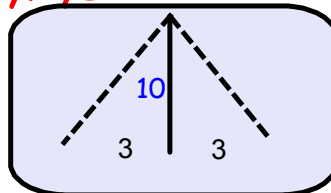
≈ 7.5, 6, 7, 8



$\sqrt{132}$ in.
or
≈ 11.5, 6, 7, 8



$\sqrt{80}$ cm
or
≈ 8.8, 9



5. A utility pole 10 m high is supported by two guy wires. Each guy wire is anchored 3 m from the base of the pole. How many meters of wire are needed for the guy wires?

$\sqrt{109}$ m or ≈ 10.4 + 10.4

so about 20+ feet

6. A 12 foot-ladder is resting against a wall. The base of the ladder is 2.5 feet from the base of the wall. How high up the wall will the ladder reach?

$\sqrt{137.75}$ ft

or ≈ 11.6, 7, 8