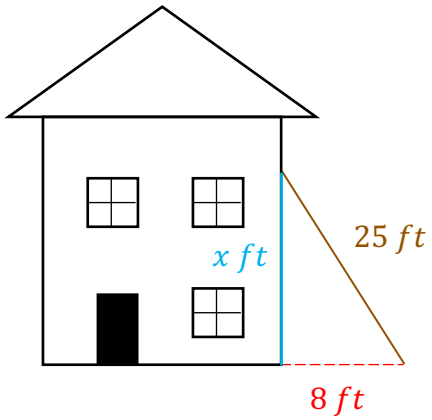
Use the diagram below to figure out how high up the side of the house the ladder reaches.



Kaden's Method

I can use the Pythagorean Theorem.

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

I plug the values into the theorem and solve for x.

$8^2 + x^2 = 25^2$

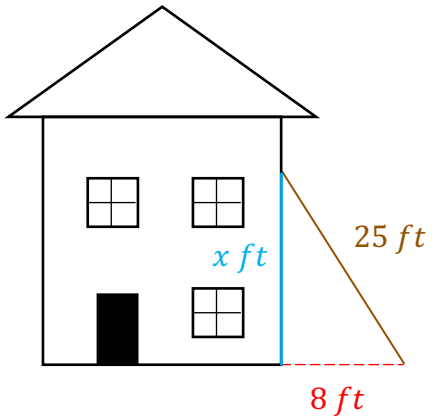
$64 + x^2 = 625$

$x^2 = 561$

$x = 23.69$

The ladder falls at a point 23.69 ft. above the ground.

Use the diagram below to figure out how high up the side of the house the ladder reaches.



Maddie's Method

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

I can use the Pythagorean Theorem.

$8^2 + 25^2 = x^2$

I plug the values into the formula and solve for x.

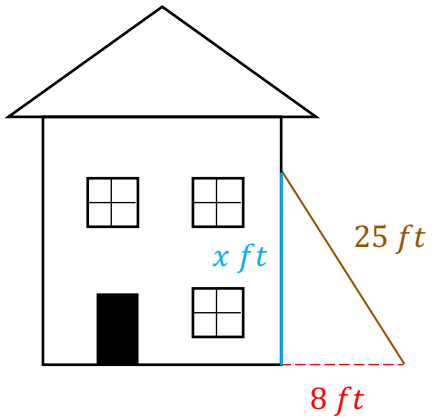
$64 + 625 = x^2$

$x^2 = 689$

$x = 26.25$

The ladder falls at a point 26.25 ft. above the ground.

Use the diagram below to figure out how high up the side of the house the ladder reaches.



Kaden's Method

I can use the Pythagorean Theorem.

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

I plug the values into the theorem and solve for x.

$8^2 + x^2 = 25^2$

$64 + x^2 = 625$

$x^2 = 561$

$x = 23.69$

The ladder falls at a point 23.69 ft. above the ground.

Maddie's Method

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

I can use the Pythagorean Theorem.

$8^2 + 25^2 = x^2$

$64 + 625 = x^2$

$x^2 = 689$

$x = 26.25$

I plug the values into the formula and solve for x.

The ladder falls at a point 26.25 ft. above the ground.

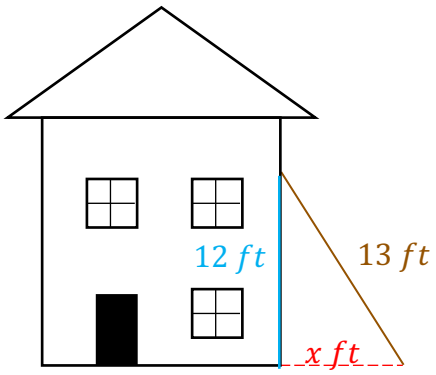
1) What are the similarities and differences between Kaden and Maddie's methods?

Similarities	Differences

2) Maddie and Kaden got different answers. Who is correct, and why?

3) Natasha says that it doesn't really matter which sides of a right triangle are *a, b,* and *c*, as long as you use all of the numbers. Is she correct? Explain your thinking.

4) Find the missing side length.



Use the diagram below to fi… …se the ladder reaches.

Whoops! Looks like I put the c-value in the wrong spot. I guess it *does* matter where you put the numbers!

I can use the Pythagorean Theorem.

I plug … into the theo… and solve for …

x^2

I plug the values into the formula and solve for x.

$64 + 625$ …

$x^2 = 56$…

$x = 23.69$

$x = 26$…

The ladder falls at a point 23.69 ft. above the ground.

The ladder falls at a point …26.25 ft. above …he ground.