**Kaden and Maddie are given a set of side lengths
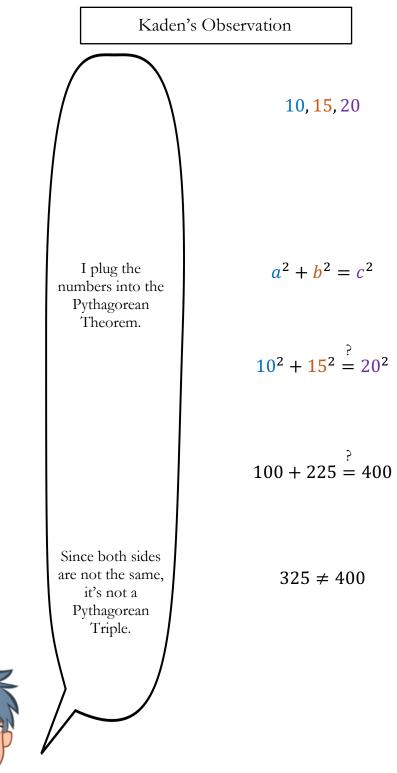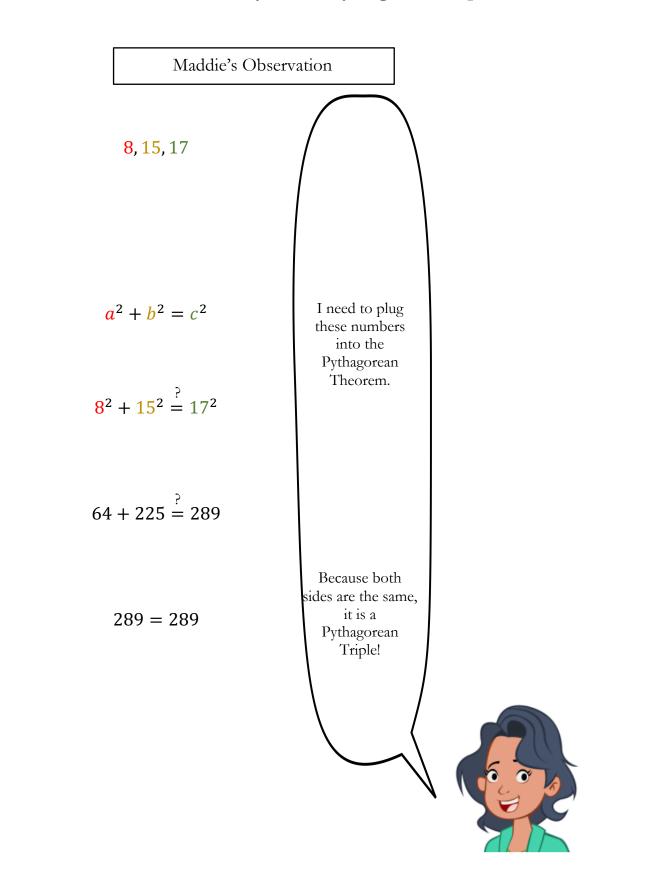and asked to determine if they form a Pythagorean Triple.**

Kaden's Observation

$10, 15, 20$

I plug the numbers into the Pythagorean Theorem.

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

$10^2 + 15^2 \overset{?}{=} 20^2$

$100 + 225 \overset{?}{=} 400$

Since both sides are not the same, it's not a Pythagorean Triple.

$325 \neq 400$

NC STATE Animated Contrasting Cases in Geometry

**Kaden and Maddie are given a set of side lengths
and asked to determine if they form a Pythagorean Triple.**

Maddie's Observation

$8, 15, 17$

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

I need to plug these numbers into the Pythagorean Theorem.

$8^2 + 15^2 \overset{?}{=} 17^2$

$64 + 225 \overset{?}{=} 289$

Because both sides are the same, it is a Pythagorean Triple!

$289 = 289$

**Kaden and Maddie are given a set of side lengths
and asked to determine if they form a Pythagorean Triple.**

Kaden's Observation			Maddie's Observation

$10, 15, 20$

$8, 15, 17$

I plug the numbers into the Pythagorean Theorem.

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

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I need to plug these numbers into the Pythagorean Theorem.

$10^2 + 15^2 \overset{?}{=} 20^2$

$8^2 + 15^2 \overset{?}{=} 17^2$

$100 + 225 \overset{?}{=} 400$

$64 + 225 \overset{?}{=} 289$

Since both sides are not the same, it's not a Pythagorean Triple.

$325 \neq 400$

$289 = 289$

Because both sides are the same, it is a Pythagorean Triple!

P.6: *Triples*

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

Similarities	Differences

2) In your own words, write a definition for a Pythagorean triple.

3) If you know that 3 numbers do not form a Pythagorean triple, what do you know about the triangle formed by those three side lengths?

4) Do 11, 14, and 17 form a Pythagorean triple? Show your work.

Kaden and Maddie s
and asked to determin

Kaden'

I plug the
numbers into the
Pythagorean
Theorem.

So three numbers only make a
Pythagorean Triple if you can plug them
into the Pythagorean Theorem and it
works. Interesting! I wonder what other
numbers are Pythagorean Triples…

Since both sides
are not the same,
it's
Py

$325 \neq 400$

$= 289$

Because both
sides are the same,
it is a
Pythagorean
Triple!