

- 2) Your friend set up the problem like  $7^2 + 17^2 = x^2$ . What would you say to help your friend understand what to do instead?
- 3) Remembering the 180 rule for triangles...why don't the three numbers from the problem in #1 add up to 180?

## One more (don't need to write)

Which of these is a reasonable estimate for the third side?



A. 19

**B.** 30

C. 49

D. 62

### **TURN IN WARMUPS**

## Video

- You are going to watch a video: <u>https://www.youtube.com/watch?v=CAkMUdeB06o</u>
- Your job will be: figure out HOW the contraption illustrates the Pythagorean Theorem

Understanding the Pyth. Thm. visually... In each figure below, the sides of three squares form a right triangle.



### Let's look at...

 Some real world situations that use the Pythagorean Theorem (there are several!)

# Application: TV's

• Carly bought a 32 inch TV.



- However, when she measured the length, she found that it was only 28 inches.
- What's the deal???

## Application: TV's

- TV's are actually measured by the length of their diagonal.
- If Carly's 32-inch TV was only 28 inches long, how tall was it?
  ≈15.5 in
- Steven also bought a 32-inch TV, but his was only 25.6 inches long. How tall was his?
  - 19.2 in
- Whose TV has a greater AREA?
- Carly:  $\approx$  433.8 in<sup>2</sup> Steven: = 491.52 in<sup>2</sup>



TOTAL AREA 25.6 x 19.2 = 491.52 square inches

TOTAL AREA 28 x 15.7 = 439.6 square inches

## CHALLENGE: Pythagorean Triples

- There are some well-known sets of three whole numbers that can form the sides of a right triangle.
- First person/pair to figure them all out will win!

#### Back to your notes from Yesterday...

## **Common Pythagorean Triples**

- •3, 4, 5
- 5, 12, 13
- •8, 15, 17
- •7, 24, 25
- •9, 40, 41
- MEMORIZE THESE!!! (It will pay off!)

## If 3, 4, 5 works...

 What can you do with the numbers to create a similar triangle? (Different size but same angles)





# **Common Pythagorean Triples**

- 3, 4, 5
- 5, 12, 13
- 8, 15, 17
- •7, 24, 25
- 9, 40, 41
- + Any multiple of these!!!
- For example: (6, 8, 10) or (50, 120, 130)

#### Homework:

#### "Measuring Your TV" Sheet

- Go home and find out what size TV you have. Hopefully, your parents will remember, or you can find the box or something.
- Measure the length and width of the TV, then check the math to see if you get the right diagonal length.

#### • + ALEKS