Speak Agent℠

We speak the language of content.℠

STRATEGY

Sentence Frames and Stems

Psst! See this strategy in action here:
speakagent.com/sentence-frames

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STRATEGY OVERVIEW

Thank you for your interest in Speak Agent's Content+Language℠ instructional resources!

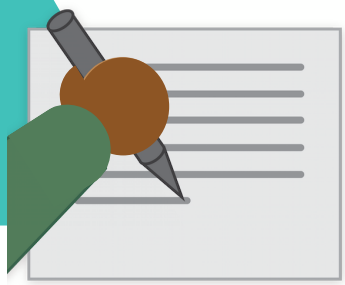
This complimentary resource pack includes items created by our experts to support your implementation of sentence stems & frames in math and science.

Here's a quick overview of what's inside:

- Sentences Frames & Stems to support written and spoken discourse in STEM
- Jada's Throw to Second Base: Learn the Language of the Pythagorean Theorem with Sentence Frames
- Buying a New TV or Computer: Apply the Language of the Pythagorean Theorem through Problem Solving

Your next mission is to visit
speakagent.com/sentence-frames
to subscribe for our latest resources!

SENTENCE FRAMES & STARTERS
SCIENCE COMMUNICATION



Communication in science is important. Use these sentence frames and starters to help build sentences when writing and speaking in science class.

SHARE AN IDEA

- I noticed _____
- I was surprised that _____
- I agree with _____ because _____

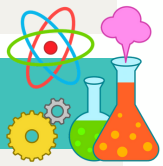
RELATIONSHIPS

- The effect of _____ on _____ is _____
- Based on _____ I think _____
- The difference between _____ and _____ is _____

QUESTIONING

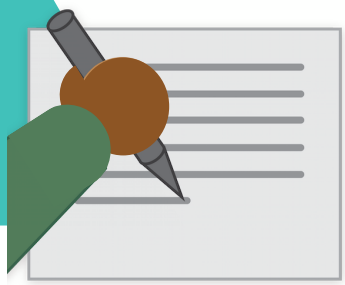
- What if _____ happens?
- I wonder _____
- Can you give me an example of _____?

EXPERIMENTING



- The data shows that _____
- The effect of _____ on _____ is _____
- Based on _____I think _____

SENTENCE FRAMES & STARTERS
MATH COMMUNICATION



Communication in mathematics is important. Use these sentence frames and starters to help build sentences when writing and speaking in your math class.

SHARE AN IDEA

- I know my answer is reasonable because _____
- The strategy I used was _____
- I discovered that _____

PARTNERS

- I disagree with you because _____
- I agree with _____ because _____
- I noticed that you _____

QUESTIONING

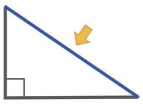
- Why did you _____?
- How did you get _____?
- Can you give me an example of _____?

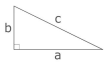
MATH THINKING

- I can check my answer by _____
- This makes sense because _____
- First I _____, then I _____

Jada's Throw to Second Base

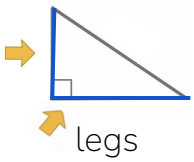
Directions: Use the words in the word bank below to fill in the blanks and complete the story. You can only use each word once. Don't forget to check your work!


hypotenuse



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

$x=3$
values


legs


right triangles

Jada plays baseball. She's the catcher. Sometimes, she throws the ball from home plate to second base. How far is that?

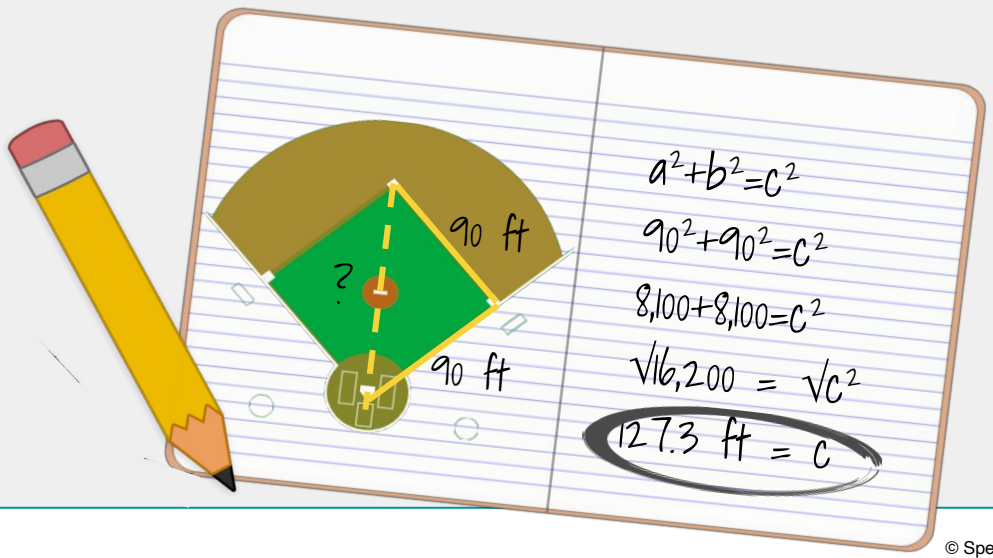
Jada uses math to figure it out. If you cut a baseball diamond in half, you get two _____.

The distance between home plate and first base is 90 feet. The distance between first base and second base is also 90 feet. Both _____ of the triangle are 90 feet in length.

To find the distance between home plate and second base, Jada needs to find the _____ of the triangle. Jada uses the _____: $a^2+b^2=c^2$.

Jada plugs in the _____ she already knows. *a = 90 feet* and *b = 90 feet*. $90^2+90^2=c^2$. Next, Jada solves for c^2. c^2 is the value of the hypotenuse.

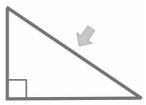
After checking her work, Jada knows c = 127.3 feet. That means the distance between home plate and second base is 127.3 feet. Jada has a great arm!



Jada's Throw to Second Base

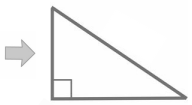
ANSWER KEY

Directions: Use the words in the word bank below to fill in the blanks and complete the story. You can only use each word once. Don't forget to check your work!


hypotenuse

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

$x=3$
values


legs


right triangles

Jada plays baseball. She's the catcher. Sometimes, she throws the ball from home plate to second base. How far is that?

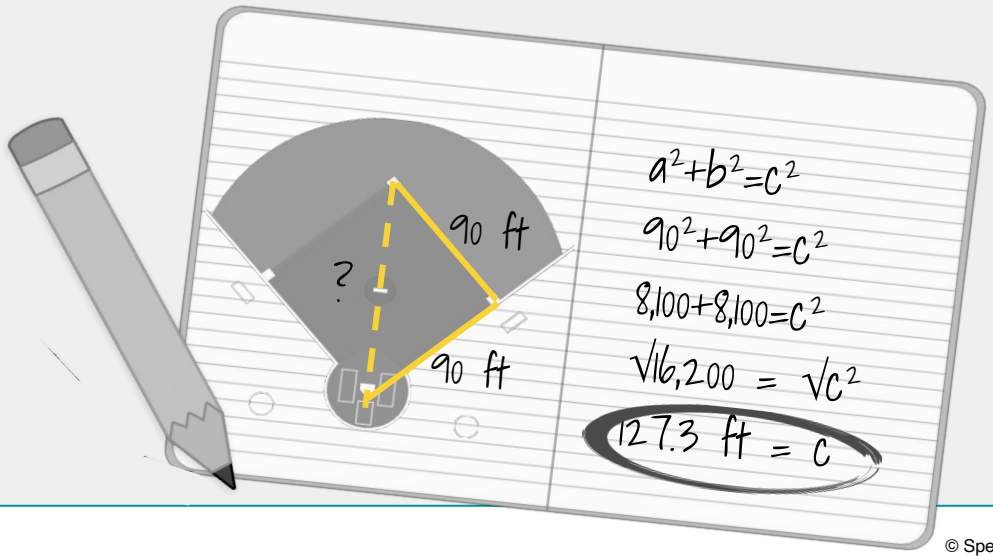
Jada uses math to figure it out. If you cut a baseball diamond in half, you get two right triangles.

The distance between home plate and first base is 90 feet. The distance between first base and second base is also 90 feet. Both legs of the triangle are 90 feet in length.

To find the distance between home plate and second base, Jada needs to find the hypotenuse of the triangle. Jada uses the Pythagorean Theorem: $a^2+b^2=c^2$.

Jada plugs in the values she already knows. $a = 90$ *feet* and $b = 90$ *feet*. $90^2+90^2=c^2$. Next, Jada solves for c^2. c^2 is the value of the hypotenuse.

After checking her work, Jada knows c = 127.3 feet. That means the distance between home plate and second base is 127.3 feet. Jada has a great arm!



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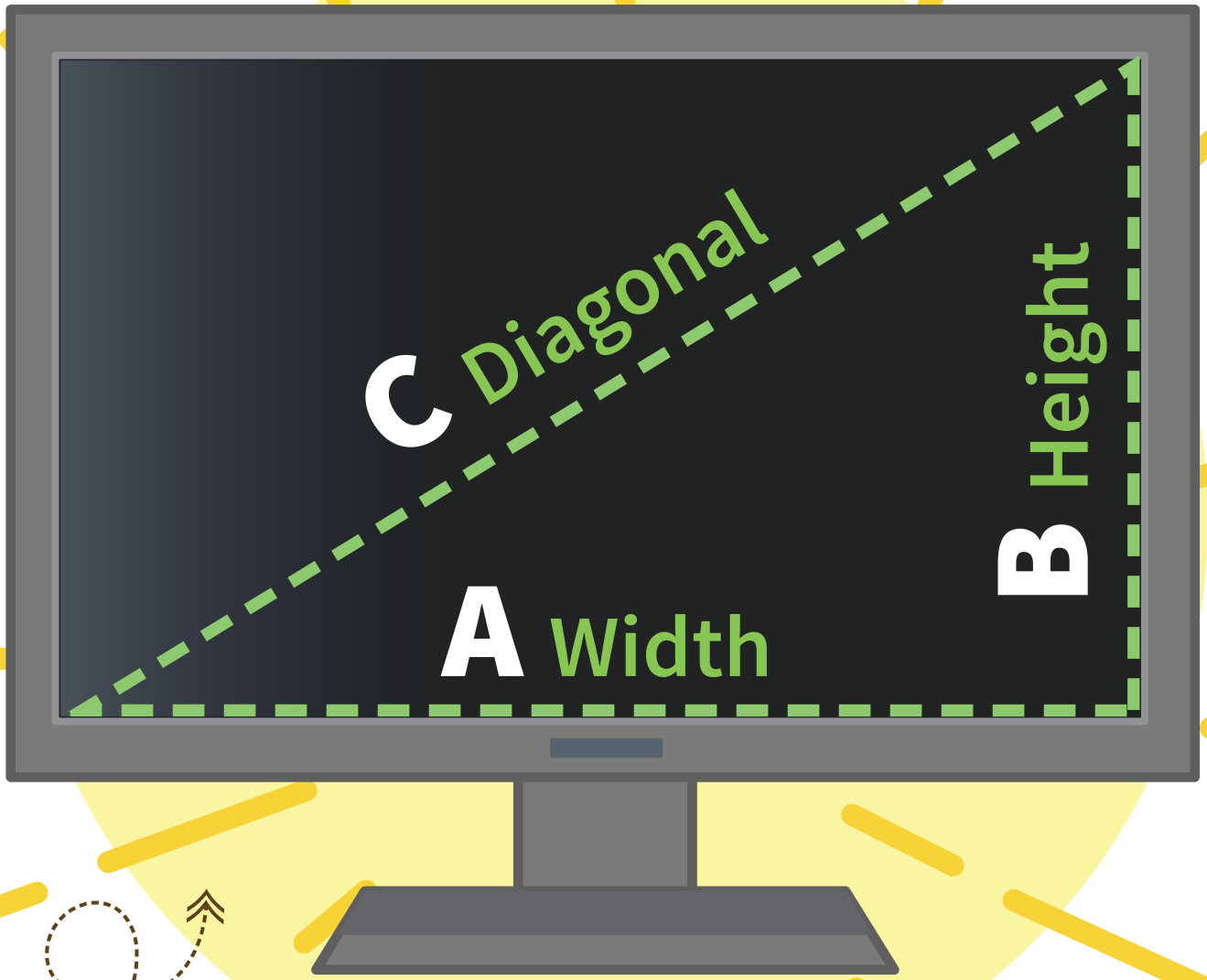
BUYING A NEW TV OR COMPUTER

MATH 8

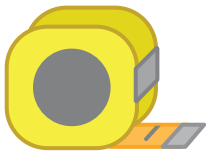
When you buy a TV or computer, the "screen size" on the box measures the diagonal line (C) from corner to corner.

You can use Pythagoras' theorem to see what your TV's real "screen size" is.



TOOLS YOU NEED

Calculator



Measuring Tape

Paper & Pencil

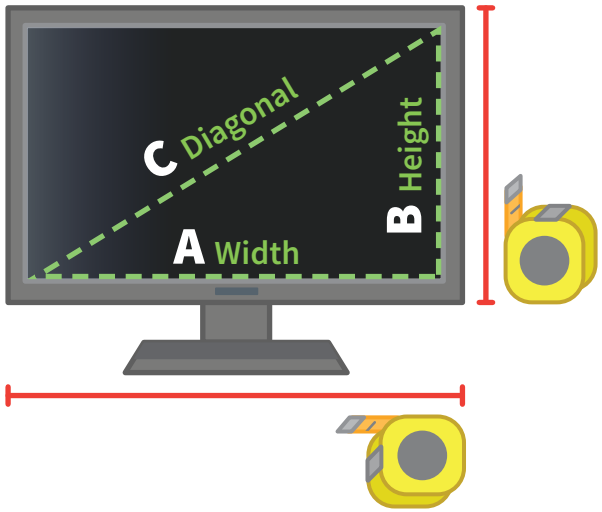
Speak Agent™

BUYING A NEW TV OR COMPUTER INSTRUCTIONS

MATH 8

1 MEASURE THE SIDES

- Measure your screen's width (A) and height (B).



2 CALCULATE

- Use the formula:

$$A^2 + B^2 = C^2$$

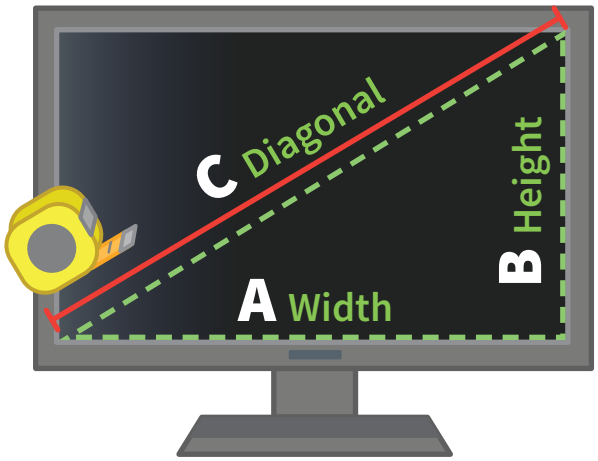
- Plug in your measurements of A and B.

Don't forget to square them before adding!

Don't forget to take the square root of C2.

3 CHECK YOUR ANSWER

- **Measure the diagnol (C) length.**



- Does your measurement equal the value you calculated for C?

If not, that's okay! Just check your work and try again until you get it.

LEARNING GOALS

- [ ] Use Pythagoras' Theorem to find unknown side lengths in right triangles.

UNIT: Pythagorean Theorem and Angles

BONUS QUESTIONS

DISCUSSION

Do you feel it's misleading to use the diagonal length (C) to measure screen sizes?

Why or why not?

Why don't the people who market TVs and computers use width (A) for the screen size?