

# MATH DISCOURSE FACILITATION STRATEGIES

to support Puzzle Talks



## DISCUSSION HAND SIGNALS



I'm thinking.



I agree..



I have an answer.



I disagree.



I have more than one strategy.



I can add to that idea.

## ENCOURAGE DEEP THINKING



### Explain solutions:

How did you figure that out? Show me.



### Justify solutions:

Why do you think that is the answer?



### Define math vocabulary:

What do you mean by [*math term*]?



### Connect to core curriculum:

Where have you seen this before?

## RESPOND THOUGHTFULLY

- Restate without affirming, redirecting, or “rounding up” responses to improve them.
- Try a variety of solutions, not just the ones that could be successful.
- Use incorrect solutions or misconceptions as learning opportunities.
- Pause the animation and use the annotation tools to support observations and understanding.

## EXTEND THINKING

<b>What if...</b>	What if the order of the numbers changed?
<b>Limiting Factor</b>	Solve it without using _____ .
<b>Multiple Models</b>	Solve it two ways. Which is most efficient?
<b>Word Problems</b>	Create a word problem for this puzzle.
<b>Real-world</b>	How would a [ <i>profession</i> ] use this concept?

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# PUZZLE TALK

## ENGAGEMENT STRATEGIES



### One Word Popcorn

- Take 30 seconds to observe and notice puzzle details.
- Have one student share a noticing, then circulate or let students choose each other to build a list of noticings.



### Partner Talk

- Students discuss with a partner - each shares their thoughts then they compare their ideas.
- Students try to convince their partner to adopt their idea.



### Voting

- Share strategies and ideas and vote on which ones to try.
- Students share why they think the strategy they voted for is best.



### Strategy Compare

- After sharing strategies with their partner or group, students compare ideas and ask clarifying questions.
- Students decide which strategy is best and explain why.



### Think - Ink - Pair - Share

- Pose a question and give students time to think, then have them draw or write their ideas.
- Students share their thinking with a partner using their illustration. Then, discuss and compare as a whole class.



### Gallery Walk

- Students work independently, in pairs, or in groups to illustrate their thinking, then display their work.
- Students walk around to view other solutions and models and find a way to solve the puzzle different from their own.



### Strategy Selection

- As students work, move around to identify interesting strategies or thinking to highlight.
- Star or number the boards to discuss as a whole group; call the student(s) up in the corresponding order.

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