

## Questions to Elicit Students' Mathematical Ideas

### Goal: Initial Eliciting of Students' Thinking

- Tell me how you got that.
- What did you come up with? What are you thinking?
- How did you begin working on this problem?
- Can you explain the solution you got?
- What have you found so far?
- Can you point to a part of this problem that was difficult?
- What do you already know about...?

### Goal: Probing Students' Answers

- How did you know?
- How did you get that answer?
- Why did you...?
- Could you use [representations] to show us how that works?
- Walk me through your steps. Where did you begin?
- Can you explain that in a different way?
- So is what you're saying...?

### Goal: Focusing Students to Listen and Respond to Others' Ideas

- What do others think about what... said? Do you agree or disagree? Why?
- What do you think... means by that?
- How does what... said go along with what you were thinking?
- Could you repeat what... just said in your own words?
- How do you think ... got his/her solution?

### Goal: Supporting Students to Make Connections (e.g. between a model and a mathematical idea or specific notation)

- How is ...'s method similar to (or different from) ....'s method?
- Can you think of another problem that is similar to this one?
- How is this similar to (or related to) what we learned about ...?
- How can we make a [picture, graph, model] of this solution?
- What part of the problem/solution does this [pointing to a particular part of a representation] represent?

### Goal: Guiding Students to Reason Mathematically (e.g. make conjectures, generalize, prove)

- Can you explain your strategy?
- Does this strategy always work? Why does that work in this case?
- What do these solutions have in common?
- What math terms help us to talk about this?
- What do you mean by...? Can you give an explanation?
- What do you already know that could help you figure this out?
- Have we found all the possible answers?

### Goal: Extending Students' Thinking

- Can you think of another way to solve this problem?
- Can you use the same strategy to solve...?
- What would happen if the numbers were changed to...?