

thought exercise

TRANSLATING EXPRESSIONS & EQUATIONS

The Translating Expressions & Equations Thought Exercise provides learners practice with mathematizing practical scenarios. Each partnership of two to three learners should have a whiteboard and a single marker, and partners should occupy an area of the learning space that prevents their discussion from interfering with or being impeded by the work of other partnerships. Once the partners are settled in their spaces, they must decide which of them will scribe.

The teacher then reads aloud a scenario and the partners work together to translate the scenario into a mathematical expression or equation. When selecting a scenario, teachers should determine whether the scenario is complex enough to elicit discussion amongst partners. To this end, a scenario should be able to be mathematized in a variety of ways, encouraging deftness of thought as learners are compelled to consider and make connections between understandings that they have already acquired. We typically read the scenario aloud only 3 times. After a short amount of work time, the teacher then chooses one partnership to present their whiteboard and explain their thinking.

SAMPLE A

You and a friend decide to sell lemonade as a way to raise funds for a special trip. You price a 16-ounce glass of lemonade for \$2.00. By the end of the day, 32 people purchase 16-ounce glasses of lemonade, and you receive \$8.50 in tips. Proud of your efforts, your parents match the amount of your sales. Your friend, from the other end of the street, made a total of \$28.00 including tips. In total, how much money was made from the lemonade fundraiser?

SAMPLE B

Rosemary has 90 minutes to complete 3 tasks. The first task she manages to complete in exactly one-half of the total number of minutes. The second task she completes in a fifth of the total minutes. How much time does Rosemary have to complete the third task?

Context of Instructional Design

This Thought Exercise was created for Green Band, a group of 3rd and 4th graders. From the problems presented in the scenarios, learners construct expressions or equations that lead to reasonable solutions. Furthermore, learners develop proficiency connecting specific terms and phrasing with mathematical operations and understandings. Lastly, this Thought Exercise provides an opportunity for learners to compare their thinking, which increases the flexibility of their thinking and helps them to make sense of and correct their misconceptions.

