

Big Ideas Math®



## A Trick for You

► **Materials:**

- Paper
- Index cards
- Pencil

► **Directions:**

Entire class - follow these steps on a piece of paper:

- |                                     |                               |                                 |
|-------------------------------------|-------------------------------|---------------------------------|
| a. Pick a number between 1 and 100. | c. Add 4 to your number.      | e. Divide your answer by 10.    |
| b. Double the number.               | d. Multiply your answer by 5. | f. Subtract 2 from your answer. |

► **What happened?**

- a. Pick a number between 1 and 100.
- b. Double the number.
- c. Add 4 to your number.
- d. Multiply your answer by 5.
- e. Divide your answer by 10.

f. Subtract 2 from your answer.

Simplify.

$x$  is where we started.

► **How did it happen?**

Let  $x$  be your number.

$$2x$$

$$2x + 4$$

$$(2x + 4) 5$$

$$\frac{(2x + 4) 5}{10}$$

$$10$$

$$\frac{(2x + 4) 5}{10} - 2$$

$$\frac{(2x + 4) 5}{10} - 2 = \frac{10x + 20}{10} - 2 = x + 2 - 2 = x$$

On the index cards, have each student write a number trick of their own. The solution of the trick does not have to be the original number. Collect the cards. Then shuffle the cards and pass one to each student. Have students work in groups of 3 or 4.

► **Who Wins?**

The first group to correctly write the expressions for the number trick wins.

