

**WORKSHEET • 5**

# Brain Freezers

How fast can you answer these riddles?

<p><b>1.</b> A video game console and one video game together cost \$110. The game console costs \$100 more than the video game. How much does the video game cost?</p>	<p><b>5.</b> A horse meets a priest, who then disappears. Where does this take place?</p>
<p><b>2.</b> It takes 5 machines 5 minutes to make 5 widgets. How long does it take 100 machines to make 100 widgets?</p>	<p><b>6.</b> What is one common question that you can never honestly answer “yes”?</p>
<p><b>3.</b> How many of each type of animal did Moses take on the ark?</p>	<p><b>7.</b> A police officer saw a truck driver going the wrong way down a one-way street. The officer did nothing when he saw this. Why not?</p>
<p><b>4.</b> Your mother has three children: April, May, and . . . what’s the third child’s name?</p>	<p><b>8.</b> A man is pushing his car and stops in front of a hotel. He then realizes that he is bankrupt. Why?</p>

### COLUMN 1

**1. Answer:** \$5. Most students will quickly provide the intuitive answer: \$10. But it's wrong. If the game cost \$10, then the console cost \$10 + \$110, or \$120. The correct response is \$5 ( $\$5 + \$105 = \$110$ ). If your students got the wrong answer, tell them they are in good company. More than half the students at prestigious universities like Harvard, MIT, and Princeton come up with the same wrong answer (Kahneman, 2011, p. 45)!

**2. Answer:** 5 minutes. Most students will answer 100 minutes. Point out that the rate stays the same, regardless of the number of machines at work.

**3. Answer:** None, since Noah built the ark. Note: This riddle is so common in psychological studies that the effect it illustrates is called "The Moses Illusion" (Kahneman, 2011, p. 73).

**4. Answer:** The student's name. This is a variation of the Moses Illusion mentioned above, in which the context primes a quick response that happens to be wrong. Be prepared for an avalanche of "June" responses.

### COLUMN 2

**5. Answer:** A chessboard. Unlike "Moses Illusion" riddles, students are challenged here to provide a context for the action. They will wrack their brains and usually guess "a fairy tale," or "Middle Earth," or some variation of a fantasy story. The actual solution is both simple and prosaic.

**6. Answer:** "Are you asleep yet?" Students will attack this challenge, assuming that there are any number of possible answers. There are not, and you will probably get a wide variety of unsatisfying answers that students know are wrong but will share anyway.

**7. Answer:** The truck driver was walking, not driving. Riddles such as this illustrate how we work to come up with overly complicated narratives to explain evidence. With this riddle, expect your students to come up with elaborate stories to explain why a police officer would be so careless, such as the driver was rushing to the hospital, or was friends with the police officer. (One boy I worked with suggested that the two of them were accomplices in a bank robbery!)

**8. Answer:** The man was playing Monopoly. Like the previous riddle, this one will spur all kinds of imaginative stories to explain the situation. The simple solution will provide a real "ah-ha!" moment to your students.