

## Grade 6 Chapter 6 Lesson 12 Order of Operations

### Answers

- A. When solving  $3 \times 5 + 20 \div 5$ :  
 $3 \times 5 = 15$  and  $15 + 20 = 35$ . Then  $35 \div 5 = 7$   
 $5 + 20 = 25$  and  $3 \times 25 = 75$ . Then  $75 \div 5 = 15$   
 $5 + 20 = 25$  and  $25 \div 5 = 5$ . Then  $3 \times 5 = 15$   
 $3 \times 5 = 15$  and  $20 \div 5 = 4$ . Then  $15 + 4 = 19$   
When solving  $125 \div 5 + 5$ :  
 $125 \div 5 = 25$  and  $25 + 5 = 5$   
 $5 + 5 = 1$  and  $125 \div 1 = 125$   
When solving  $12 - 9 - 2$ :  
 $12 - 9 = 3$  and  $3 - 2 = 1$   
 $9 - 2 = 7$  and  $12 - 7 = 5$
- B. Most newer calculators will follow the rules for order of operations and will give the answers 19, 5, and 1. Older calculators will give the answers 7, 5 and 1.
- C. For example (new calculator), no, you get an answer of 7 for the first skill-testing question.
- D. It depends. I get one answer for a question with multiplication or addition, but sometimes two answers for a question with subtraction or division.
- E. It depends, but I get at least two answers. For example,  $2 \times 6 - 4 \div 2$  has the answers 4, 2, 10, and 8. Most newer calculators will give an answer of 10 if all numbers and operations are entered before pressing the "=" sign.
- F. For example,  $2 \times 3 \times 1 \times 5$  or  $12 + 3 + 1 + 5$ .
- 1. For example, so that every person gets the same answer when they enter the same numbers and same operations in that order.
- 2. For example, the answer changes if you use a mixture of operations, but it doesn't change if you use only addition or multiplication.