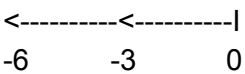**Lesson 1-6: Multiply Integers**

1. If the factors have different signs, the product is negative. If the factors have the same sign, the product is positive.

2. Negative; Sample answer: The product of the first two negative integers is positive. The product of that positive integer and the third negative integer is negative.

3. Sample answer: When you multiply a negative number by -1, the product will be the opposite of the negative number.
(-1)(-1) = -(-1) because the opposite of -1 is 1.

4. Yes; the Commutative Property of Multiplication says that you can change the order of the factors when multiplying. Since the factors are the same, the product is the same.

5. <----------<----------|
   -6   -3   0

6. B, D

7. a. 36
   b. -84
   c. -64
   d. 135

8. 2 x (-600) = -1,200

9. 12

10. -32

11. -35

12. -10

13. 24

14. 90

15. -18

16. a. 41
   b. Sample answer: Using the definition of the additive inverse, -1 + 1 = 0. Using the Zero Property of Multiplication, -41 x (-1 + 1) = 0. Using the Distributive Property, -41 x (-1) + (-41) x 1 = 0. Using the Identity Property of Multiplication, -41 x (-1) + (-41) = 0. So, -41 x (-1) must equal 41.

17. a. -80
   b. Sample answer: He may have forgotten to include the negative sign after finding the product of the first 2 numbers.

18. 24 < 56, so (-7) x (-8) is greater.

19. -54

20. a. -48
   b. 48
   c. Sample answer: The integer for the withdrawals is negative. The integer for the deposits is the opposite.

21. Equipment elevator: -168 feet
Elevator for miners: -210; The elevator for miners is 42 feet deeper.

22. -35 x 2 = -70

23. A, D, E