

Lesson 3.2 Study Guide and Intervention**Multiply and Divide with Negative Numbers****Multiplying and Dividing with Negative Numbers**

If both numbers are negative, the answer is *positive*. If one number is negative and the other is positive, the answer is *negative*.

Negative Numbers and Exponents

If a negative number has an even exponent, the result is *positive*. If a negative number has an odd exponent, the result is *negative*.

Example 1 Multiply $5(-2)$.

$$5(-2) = -10$$

The integers have different signs.
The product is negative.

Example 2 Multiply $-6(-9.2)$.

$$-6(-9.2) = 55.2$$

The integers have the same sign.
The product is positive.

Example 3 Multiply $(-7)^2$.

$$\begin{aligned}(-7)^2 &= (-7)(-7) \\ &= 49\end{aligned}$$

The exponent is an even number.
The product is positive.

Example 4 Divide $\frac{30}{-5}$.

$$\frac{30}{-5}$$

The integers have different signs.

$$\frac{30}{-5} = -6$$

The quotient is negative.

Example 5 Divide $-100 \div (-5)$.

$$-100 \div (-5)$$

The integers have the same sign.

$$-100 \div (-5) = 20$$

The quotient is positive.

Exercises

Multiply.

1. $-5(8)$

2. $-3\left(-\frac{7}{4}\right)$

3. $10(-8.2)$

4. $-8\left(1\frac{2}{7}\right)$

5. $-12(-12)$

6. $(-8)^2$

Divide.

7. $-12 \div 4$

8. $-34.5 \div (-15)$

9. $\frac{18}{-2}$

10. $-36 \div (-3)^2$

11. $-10\frac{2}{5} \div 10$

12. $\frac{-80}{-20}$

13. $350 \div (-25)$

14. $-440 \div (-2)^3$

15. $\frac{-256}{4^2}$