

# Assignment

## Write

Explain how you determine the sign of the product or quotient of three of integers.

## Remember

To multiply and divide integers, perform the usual multiplication and division algorithms and then apply the correct sign to the product or quotient.

## Practice

Draw a two-color counter model to determine each product. Describe the expression in words.

- $6 \times (-3)$
- $-2 \times 5$
- $-4 \times (-2)$

Complete a number line model to determine each product.

- $-2 \times 7$
- $-5 \times (-3)$
- $3 \times (-3)$

Determine each product.

- |                   |                              |
|-------------------|------------------------------|
| 7. $5 \times 11$  | 8. $3 \times 4 \times 5$     |
| $5 \times (-11)$  | $-3 \times (-4) \times 5$    |
| $-5 \times 11$    | $-3 \times 4 \times 5$       |
| $-5 \times (-11)$ | $-3 \times (-4) \times (-5)$ |
|                   | $3 \times 4 \times (-5)$     |
|                   | $3 \times (-4) \times (-5)$  |

Determine the integer that makes each number sentence true.

- |                              |                              |
|------------------------------|------------------------------|
| 9. _____ $\times (-9) = -36$ | 10. $3 \times$ _____ $= -24$ |
| 11. $14 \times$ _____ $= 56$ | 12. _____ $\times (-6) = 30$ |
| 13. $9 = (-63) \div$ _____   | 14. $-40 \div$ _____ $= -8$  |
| 15. $16 \div$ _____ $= -8$   | 16. _____ $\div (-6) = -4$   |

## Stretch

Multiplication can be represented as repeated addition. Repeated multiplication leads to exponents. Use what you know about multiplying signed numbers to evaluate each expression.

1.  $(-3)^3$

2.  $(-4)^2$

3.  $(-2)^5$

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

What do you notice?

## Review

1. The Baby Shop sells baby supplies for new families. They offer different brands of the same items.

James and his mom are shopping for his new baby brother. It is James' job to make sure that his mom is making wise purchases. Their first item to purchase is diapers. There are 3 different options for newborn-sized diapers.

Stay-Dry: 108 diapers for \$25.18

UberSoft: 180 diapers for \$39.14

Cuddlies: 160 diapers for \$38.77

- What is a unit rate for the Stay-Dry diapers?
- What is a unit rate for the UberSoft diapers?
- What is a unit rate for the Cuddlies diapers?
- Which kind of diapers should James advise his mom to purchase?

2. Calculate each sum.

a.  $2\frac{1}{2} + \left(-3\frac{3}{4}\right) + 5\frac{2}{5}$

b.  $5\frac{1}{3} + \left(-4\frac{1}{6}\right) + \left(-2\frac{1}{2}\right)$

3. Determine each unit rate.

a.  $1\frac{1}{4}$  teaspoons baking powder per  $\frac{3}{8}$  cup flour

b.  $2\frac{2}{5}$  parts ammonia per  $1\frac{1}{3}$  parts vinegar