

2-5 Study Guide and Intervention**Dividing Integers****Dividing Integers
with the Same Sign**

The quotient of two integers with the same sign is positive.

Example 1 Find each quotient.

a. $14 \div 2$ The dividend and the divisor have the same sign.
 $14 \div 2 = 7$ The quotient is positive.

b. $\frac{-25}{-5}$
 $\frac{-25}{-5} = -25 \div (-5)$ The dividend and divisor have the same sign.
 $= 5$ The quotient is positive.

**Dividing Integers
with Different Signs**

The quotient of two integers with different signs is negative.

Example 2 Find each quotient.

a. $36 \div (-4)$ The signs are different.
 $36 \div (-4) = -9$ The quotient is negative.

b. $-\frac{42}{6}$ The signs are different.
 $-\frac{42}{6} = -7$ The quotient is negative.

Exercises**Find each quotient.**

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|---------------------|----------------------|------------------------|
| 1. $32 \div (-4)$ | 2. $-18 \div (-2)$ | 3. $-24 \div 6$ |
| 4. $-36 \div (-2)$ | 5. $50 \div (-5)$ | 6. $-81 \div (-9)$ |
| 7. $-72 \div (-2)$ | 8. $-45 \div 3$ | 9. $-60 \div (-12)$ |
| 10. $99 \div (-11)$ | 11. $-200 \div (-4)$ | 12. $38 \div (-2)$ |
| 13. $-144 \div 12$ | 14. $100 \div (-5)$ | 15. $-200 \div (-20)$ |
| 16. $\frac{-28}{2}$ | 17. $\frac{36}{-4}$ | 18. $\frac{-150}{-25}$ |

2-5 Study Guide and Intervention *(continued)***Dividing Integers**

Mean (Average) To find the **mean**, or average, of a set of numbers, find the sum of the numbers and then divide by the number of items in the set. Use the rules for dividing integers to find the mean.

Example **OCEANOGRAPHY** The diving depths in feet of 7 scuba divers studying schools of fish were -12 , -9 , -15 , -8 , -20 , -17 , and -10 . Find the mean diving depth.

$$\frac{-12 + (-9) + (-15) + (-8) + (-20) + (-17) + (-10)}{7} = \frac{-91}{7}$$

$$= -13$$

Find the sum of the diving depths.

Divide by the number of divers.

Simplify.

The mean diving depth is -13 feet, or 13 feet below sea level.

Exercises

- WEATHER** The low temperatures in degrees Fahrenheit for a week were -3 , 5 , -9 , 2 , 6 , -11 , and -4 . Find the mean temperature.
- MONEY** The last 6 entries in Ms. Caudle's checkbook ledger show both deposits and withdrawals. Ms. Caudle wrote down $\$100$, $-\$20$, $-\$35$, $\$250$, $-\$150$, and $-\$85$. What is the mean dollar amount for these entries?
- GOLF** During 5 rounds of golf, James had scores of 2 , -1 , 0 , -2 , and -4 . Find the mean of his golf scores.
- TRAINING** To train himself for a triathlon, Josh runs every day. Last week he ran 5 miles, 7 miles, 3 miles, 4 miles, 8 miles, 10 miles and 5 miles. What is the mean number of miles he ran last week?
- ROCK CLIMBING** A rock climber makes several changes in position while attempting to scale a cliff face. She ascends 15 feet, descends 7 feet, ascends 22 feet, descends 13 feet, and then ascends another 28 feet. What is her mean change in position?