Lesson 2-5

Example 1 Divide Integers with the Same Sign

Find each quotient.

a. –36 ÷ (-4) The dividend and the divisor have the same sign.

-36 ÷ (-4) = 9 The quotient is positive.

b. $\frac{\textbf{-25}}{\textbf{-5}}$

$\frac{-25}{-5}$ = -25 ÷ -5 The dividend and the divisor have the same sign.

= 5 The quotient is positive.

Example 2 Divide Integers with Different Signs

Find each quotient.

a. 24 ÷ (-6)

24 ÷ (-6) = -4 The signs are different. The quotient is negative.

b. $\frac{\textbf{-56}}{\textbf{7}}$

$\frac{-56}{7}$ = -56 ÷ 7 The signs are different. The quotient is negative.

= -8 Simplify.

Example 3 Evaluate Algebraic Expressions

Evaluate $xy \div 4$, if $x = -8$ and $y = 9$.

$xy \div 4 = (-8)(9) \div 4$ Replace x with –8 and y with 9.

= -72 ÷ 4 The product of –8 and 9 is negative.

= -18 The quotient of –72 and 4 is negative.

Example 4 Find the Mean

a. Kyle earns $24, $32, $16, and $28 during four days of work. Find the average (mean) of his daily earnings.

$\frac{24+32+16+28}{4} = \frac{100}{4}$ Find the sum of the daily earnings.

= 25 Divide by the number of days.

Kyle's average daily amount earned is $25.

b. Find the average (mean) of –4, 6, 9, -2, and –14.

$\frac{-4+6+9+(-2)+(-14)}{5} = \frac{-5}{5}$ Find the sum of the set of integers.

Divide by the number in the set.

= -1 Simplify.

The average is –1.