NAME _____ DATE _____

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Multiplying and Dividing Integers

Objective: To find products and quotients of integers.

Terms to Know

Multiplying two integers Finding the product of two integers using the following rule:
The product of two integers with the same sign is positive.
The product of two integers with different signs is negative.

Dividing two integers Finding the quotient of two integers using the following rule:
The quotient of two integers with the same sign is positive.
The quotient of two integers with different signs is negative.

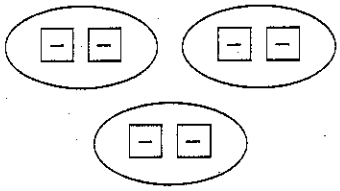
Example 1 Find each answer.

a. $3(-2)$ **b.** $(-4)(5)$

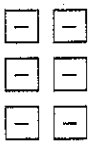
Solution You can use integer chips to multiply the integers.

a. $3(-2)$

3 groups of -2



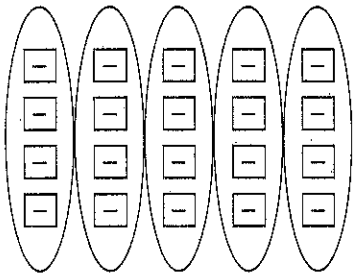
1 group of -6



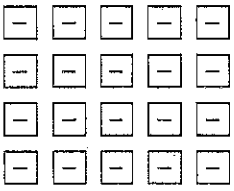
$3(-2) = -6$

b. $(-4)(5)$
$(-4)(5) = 5(-4)$

5 groups of -4



1 group of -20



$(-4)(5) = 5(-4) = -20$

Find each product.

1. $(-7)(9)$
2. $6(-7)$
3. $(-13)(9)$
4. $5(8)$
5. $(-10)(4)$
6. $9(6)$
7. $16(-3)$
8. $(-5)(9)$
9. $14(-2)$
10. $3(-12)$
11. $4(11)$
12. $(-15)(5)$

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Multiplying and Dividing Integers *(continued)*

Example 2 Find each product: **a.** $(-3)(-4)$ **b.** $(-3)(6)(-4)$

Solution **a.** $(-3)(-4) = 12$ **b.** Do the multiplications in order from left to right.

$\underbrace{(-3)(6)(-4)}$ First multiply -3 by 6.

$\underbrace{(-18)(-4)}_{72}$ Then multiply the result by -4

$(-3)(6)(-4) = 72$

Find each answer.

13. $(-6)(-8)$ **14.** $(-12)(-5)$ **15.** $(-8)(-4)$

16. $(-7)(-3)$ **17.** $(-2)(-9)$ **18.** $(-10)(-13)$

19. $(2)(-8)(3)$ **20.** $(-5)(11)(-6)$ **21.** $(-12)(2)(8)$

22. $(6)(-7)(-4)$ **23.** $(3)(9)(-1)$ **24.** $(-4)(-21)(-7)$

Example 3 Find each answer.

a. $\frac{28}{4}$ **b.** $20 \div (-2)$ **c.** $\frac{-18}{6}$ **d.** $(-32) \div (-8)$

Solution Use the rule for dividing integers.

a. $\frac{28}{4} = 7$ **b.** $20 \div (-2) = -10$ **c.** $\frac{-18}{6} = -3$ **d.** $(-32) \div (-8) = 4$

Find each quotient.

25. $\frac{48}{16}$ **26.** $(-27) \div 9$ **27.** $\frac{-22}{11}$

28. $(-72) \div (-8)$ **29.** $\frac{-30}{-6}$ **30.** $42 \div (-7)$

31. $\frac{43}{-43}$ **32.** $\frac{-18}{2}$ **33.** $(-100) \div 20$

34. $(-56) \div (-14)$ **35.** $15 \div (-15)$ **36.** $\frac{96}{-3}$

37. $\frac{-24}{6}$ **38.** $38 \div 2$ **39.** $\frac{60}{5}$

40. $(-53) \div 53$ **41.** $\frac{-14}{-7}$ **42.** $111 \div (-3)$

Spiral Review

43. Add: $3\frac{1}{4} + 5\frac{1}{8}$
(Toolbox Skill 18)

44. Find the quotient: $42 \div (-6)$
(Lesson 3-5)