

Multiplying Integers

Rules for multiplying integers:

- The product of two integers with the same sign is positive.
- The product of two integers with different signs is negative.

Here are some examples:

Find 5×6 .

$$5 \times 6 = 30$$

Both integers have the same sign, so the product is positive.

Find $3 \times (-2)$.

$$3 \times (-2) = (-2) + (-2) + (-2) = -6$$

So, $3 \times (-2) = -6$.

The integers have different signs, so the product is negative.

1. $6 \times 3 =$ _____

2. $5 \times (-6) =$ _____

3. $-4 \times 0 =$ _____

4. $12 \times (-5) =$ _____

5. $-4 \times (-9) =$ _____

6. $22 \times 4 =$ _____

7. $(-1)(-37) =$ _____

8. $(-7)(-7) =$ _____

9. $(2)(4)(-3) =$ _____

10. $(-8)(-7) =$ _____

For 11–14, evaluate each expression when $d = 2$.

11. $-3d$ _____

12. $d \times |-3|$ _____

13. $-10d - 3$ _____

14. $|-9| + d$ _____

15. **Number Sense** Is the product of 4 negative integers positive or negative?

Dividing Integers

Rules for dividing integers:

- The quotient of two integers with the same sign is positive.
- The quotient of two integers with different signs is negative.

$$54 \div -6$$

$54 \div 6 = 9$. Because the signs of the two integers are different, the sign of the quotient is negative.

So, $54 \div -6 = -9$.

$$-36 \div -3$$

$36 \div 3 = 12$. Because the signs of the two integers are the same, the sign of the quotient is positive.

So, $-36 \div -3 = 12$.

1. $\frac{30}{6}$ _____

2. $\frac{-15}{3}$ _____

3. $\frac{28}{-4}$ _____

4. $\frac{-50}{-5}$ _____

Use order of operations to evaluate each expression.

5. $(-48 \div 6) + (-8) =$ _____

6. $4^2 + 50 - 33 \div -11 =$ _____

7. $40 - (-18 \div -6) =$ _____

8. $(-64 \div -8) + 6^2 \div -9 =$ _____

For 9–12, evaluate each expression when $n = -4$.

9. $-40 \div n =$ _____

10. $\frac{n}{-2} + 21 =$ _____

11. $n^2 - (-3) =$ _____

12. $\frac{32}{n} - 4 =$ _____

13. **Reasoning** Without computing the answer, how do you know if the quotient $-232 \div 11$ is negative or positive?
