

Lesson 1.4:

Multiplying Integers

Rules for multiplying:

Two integers with the same sign

The product is positive.

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

Two integers with different signs

The product is negative.

$$-4 \times 5 = -20 \quad 4 \times -5 = -20$$

Get out your spiral notebooks!

Key Ideas

Multiplying Integers with the Same Sign

Words The product of two integers with the same sign is positive.

Numbers $2 \cdot 3 = 6$ $-2 \cdot (-3) = 6$

Multiplying Integers with Different Signs

Words The product of two integers with different signs is negative.

Numbers $2 \cdot (-3) = -6$ $-2 \cdot 3 = -6$

+	-	-
-	+	-
-	-	+

Example 1:

Find $-5 \cdot (-6)$

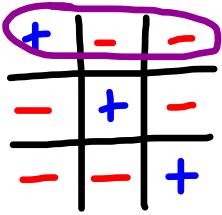
+	-	-
-	+	-
-	-	+

30

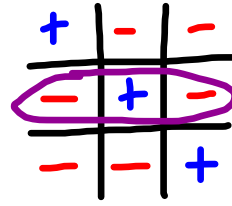
Example 2:

Multiply.

a. $3(-4)$



b. $-4 \cdot 7$



-12

-28

Multiply.

1. $-1(-9)$

9

2. $-7 \cdot (-8)$

56

3. $12 \cdot (-2)$

-24

4. $4(-6)$

-24

5. $-10(-6)(0)$

0

6. $-7 \cdot (-5) \cdot (-4)$

$-7 \cdot 20$

-140

*Even number of negatives = +

*Odd number of negatives = -

Example 3:a. Evaluate $(-2)^2$.

$$(-2)(-2) = 4$$

b. Evaluate -5^2 .

$$-1 \cdot 5^2 = -25$$

c. Evaluate $(-4)^3$.

$$(-4)(-4)(-4) = -64$$

Evaluate the expression.

7. $(-3)^2$

9

8. $(-2)^3$

-8

9. -7^2

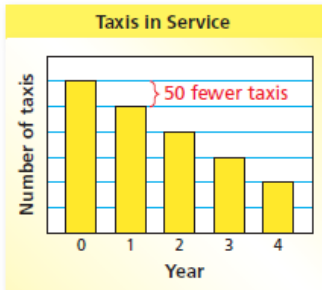
-49

10. -6^3

-216

Example 4:

The bar graph shows the number of taxis a company has in service. The number of taxis decreases by the same amount each year for 4 years. Find the total change in the number of taxis.



↓50 for 4 yrs.

$$-50 \cdot 4 = -200$$

11. A manatee population decreases⁻¹⁵ by 15 manatees each year for 3 years. Find the total change in the manatee population.

$$-15 \cdot 3 = -45$$