Multiplication/Division Rules

Same signs = positive

Opposite signs = negative

Examples: -10:-3=30 -12:-4=3 7:-2=-14

-21:3=-7 30:6=5 -5-8=40

Exercise 1: Multiplication of Integers in the Real-World

Generate real-world situations that can be modeled by each of the following multiplication problems. Use the Integer

a. -3×5 = 75

I lost three \$5 bills. I lost a total of \$15. The productis -15.

b. $-6 \times (-3) = /8$

I removed six -3's from my hand in the Intege game, and my score increased 18 points.
The Product is 18.

c. 4×(-7)=-28

If I lose 7 pours s per month for 4 months

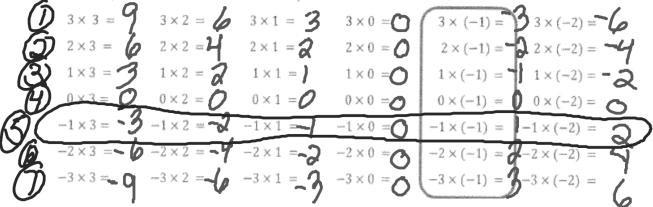
My weight will change - 28 pours total. The product is 28.

Lesson Summary

To multiply signed numbers, multiply the absolute values to get the absolute value of the product. The sign of the product is positive if the factors have the same sign and negative if they have opposite signs.

Problem Set

1. Complete the problems below; then, answer the question that follows.



Which row shows the same pattern as the outlined column? Are the problems similar or different? Explain.
The 5th row. The problems have the same answers, but
The factors are switched.

2. Explain why (-4) × (-5) = 20. Use patterns, an example from the Integer Game, or the properties of operations to support your reasoning.

Losing four (-5) cards will increase as core by 20.

Since a regative value decreases as core, the Score increases when it is removed.

 Each time that Samantha rides the commuter train, she spends \$4 for her fare. Write an integer that represents the change in Samantha's money from riding the commuter train to and from work for 13 days.

-8-13=-104 -4-13=-52 (oneway) -52+52=-104 Sam pays \$8 a day to ride the train. She rode the train for 13 days. 4. Write a real-world problem that can be modeled by $4 \times (-7)$.

I lost #7 each day for Hdays. I lost a total of \$28. The product is -28.

Challenge

5. Use properties to explain why for each integer a, $-a = -1 \times a$. (Hint: What does $(1 + (-1)) \times a$ equal? What is the additive inverse of a?)

Lesson 1	11:	Develop	Rules	for	Multiplying	Signed	Numbers

Exit Ticket

1. Create a real-life example that can be modeled by the expression -2×4 , and then state the product.

2. Two integers are multiplied, and their product is a positive number. What must be true about the two integers?

