

NAME _____

Module 3 Integers
Lesson 4 Multiplying and Dividing Integers

Lesson Objectives

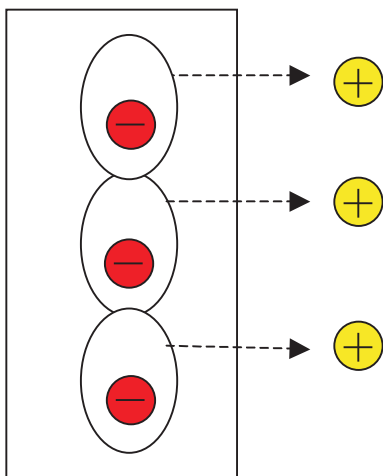
- Model multiplication and division of integers using physical objects and pictures.
- Multiply integers.
- Divide integers.

Subtopic 1 Multiplying Integers Using Counters

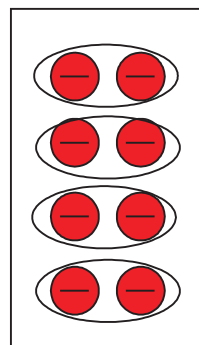
- The first factor tells how many groups or sets.
- If the first factor is positive, put on counters.
- If the first factor is negative, take off counters.
- The second factor tells how many objects are in each group and whether those objects are positive or negative.
- A zero pair contains one positive and one negative counter, which equals zero when put together.
- A yellow positive counter and red negative counter form a zero pair.

Use counters to multiply.

1 $-3 \times 1 = -3$

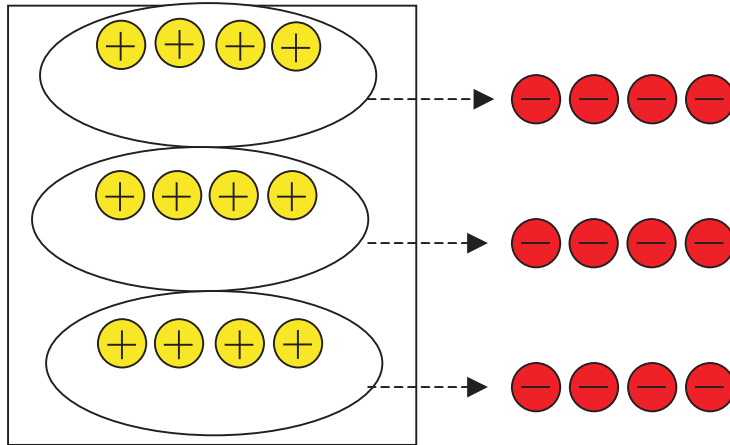


2 $4 \times -2 = -8$



Use counters to multiply.

3 $-3 \times -4 = 12$

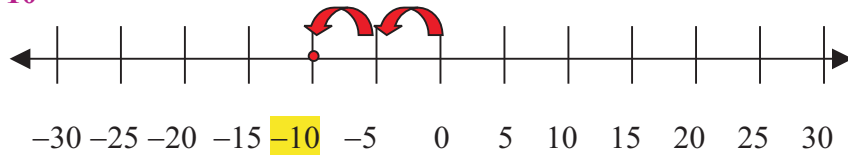


Subtopic 2 Multiply Integers Using a Number Line

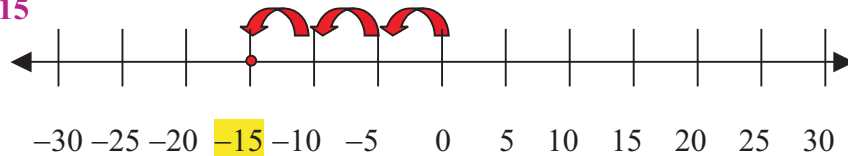
- Start at zero.
- The first factor tells us which direction to face and how many steps to take.
- The second factor tells us the length of a step and whether to move forward or backward.

Use a number line to multiply.

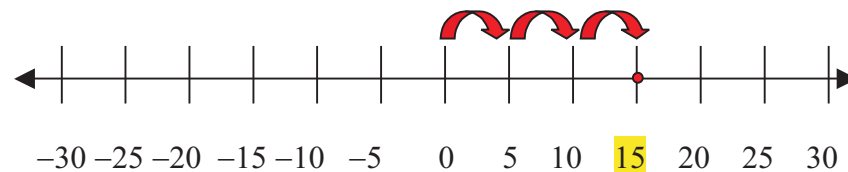
4 $-2 \times 5 = -10$



5 $3 \times -5 = -15$



6 $-3 \times -5 = 15$



NAME _____

Module 3 **Integers**
Lesson 4 **Multiplying and Dividing Integers**

Subtopic 3 **Multiplying and Dividing Integers Using Rules**

- If the factors have **same** sign, the product is positive.
positive \times **positive** = positive
negative \times negative = **positive**
- If the factors have **different** signs, the product is negative.
positive \times negative = **negative**
negative \times positive = negative

Division is the **inverse** operation of multiplication.

- If you divide integers with the **same** sign, the quotient is positive.
positive \div positive = **positive**
negative \div negative = positive
- If you divide integers with **different** signs, the quotient is negative.
positive \div **negative** = negative
negative \div positive = **negative**

Multiply or divide.

7 $-72 \div 9$ **-8**

8 25×-4 **-100**

9 $-35 \div -7$ **5**

10 -6×-8 **48**

