

$$5y \leq 3y + 10 \quad * \quad 6(x + 3) = 6x + 18 \quad * \quad 3x + 2y = 24 \quad * \quad x^2$$

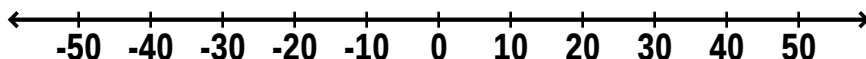
## Integers

# Integer Football

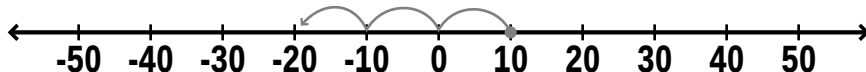
Play this fun game and get ready for a kickoff of intensive integer computation practice. Students won't fumble positive and negative numbers again!

## Directions

1. Duplicate the *Integer Football* reproducible for each pair. Review the terms *integer*, *positive*, and *negative* with the class.
2. One player takes the side of the Touchdown Negatives, while the other takes the side of the Pigskin Positives. To start, each player's three counters are placed on the 0-yard line. The object is for players to get all three of their counters to their own 50-yard lines (positive or negative) first.
3. Players use a pencil and paper clip to make the spinner, spinning the clip around the pencil.
4. For each turn, a player spins the Yards spinner and moves a counter the number of positive or negative yards indicated. To clarify, draw the following number line on the board:



Suppose a player who had a counter on the 10-yard line spins a -30. Draw an arrow as below, or move a counter to show students that the player would move 30 yards to the left.



5. If all three of one player's counters land on the opposing side's 50-yard line, all those counters should be moved back to 0. A player does not need an exact spin to land on a 50-yard line. The first player to get all three counters on his or her own 50-yard line wins.

## ★ Taking It Farther

To make the game harder, duplicate the reproducible. Change +10 and -10 to +5 and -5, change +20 and -20 to +15 and -15, and change +30 and -30 to +25 and -25. Use a ruler to draw 5-yard lines between the 10-yard lines. Make copies of the new reproducible for students to play the game again.

## ✓ Assessing Skills

Observe whether students understand which direction to move a counter that is already on the negative side of the board. If they spin a -10, do they move 10 yards to the left? Students may be confused and move to the -10 yard line instead.

### LEARNING OBJECTIVE

Students add positive and negative integers.

### GROUPING

Pairs

### MATERIALS

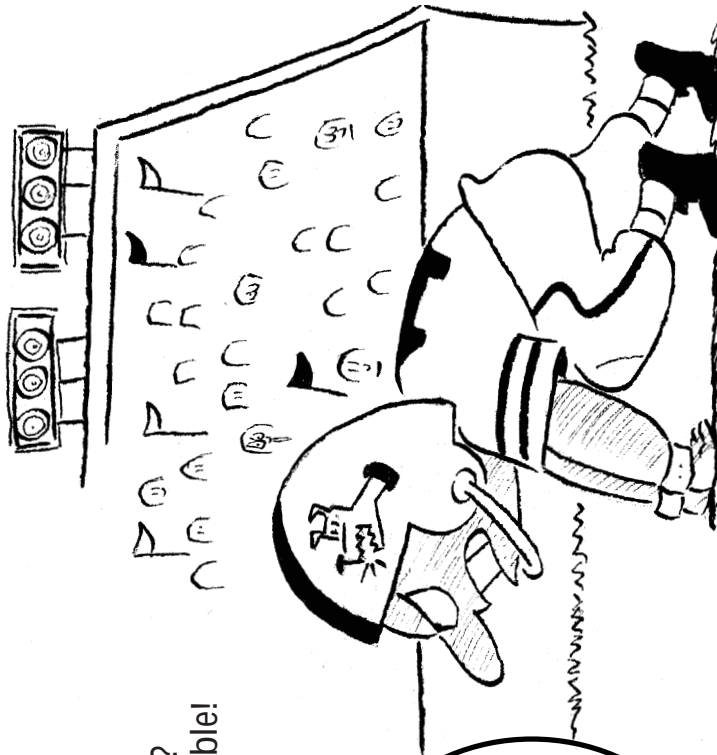
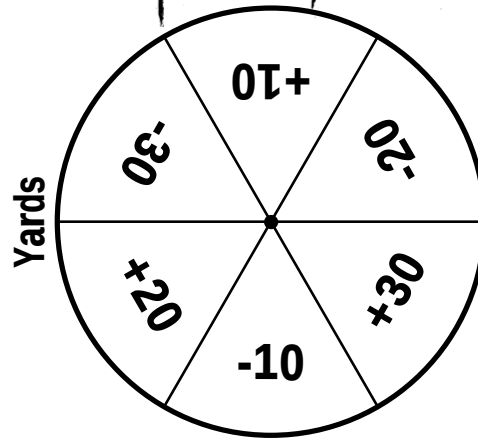
- \* *Integer Football* reproducible (p. 49)
- \* pencil and paper clip for each pair (to make the spinner)
- \* 3 different-colored counters for each student

Name

Date \_\_\_\_\_

# Integer Football

Attention sports fans—and math fans! Are you ready to tackle a fun new game? Your goal is to get all your players to your own team's 50-yard line. Don't fumble!



$$5y \leq 3y + 10 \quad * \quad 6(x + 3) = 6x + 18 \quad * \quad 3x + 2y = 24 \quad * \quad x^2$$

## Integers

# Mouthwatering Math!

When students use candy manipulatives to add integers, they'll get some sweet computation and problem-solving practice. Algebra never tasted so good!

## Directions

1. Separate the candy by color. Each pair of players gets two candy colors, ten of each. They decide which color will represent positive integers and which will represent negative integers.
2. Each pair arranges their three cups or bowls in a triangle.
3. Player 1 turns his or her back. Meanwhile, Player 2 puts candy in each cup, using only one color in each cup. For example, if yellow is positive and green is negative, three yellow candies represent +3. Five green candies represent -5. (Note: Player 2 does not have to use all the available candy.)
4. Player 2 finds the sum of the integers in two adjacent cups. She or he writes the sum on a piece of paper and places the paper between the two cups. Player 2 does this for each pair of integers so there is a piece of paper between each pair of cups.
5. Player 2 removes the candy from the cups and places it in front of Player 1.
6. Player 1 turns around. Using the candy and the sums on the paper between each pair of cups, Player 1 figures out how many candies—and which color—go in each cup.
7. Players switch roles and play again.

## Taking It Farther

After a few rounds, have students try the game using subtraction instead of addition. To find the difference to write on the paper between two bowls, players first subtract the left number from the right number, then subtract the right number from the left number. The answers should be the positive and negative versions of an integer, such as  $\pm 5$ .

## Assessing Skills

- \* What strategies do students use? Guess and check may be one method.
- \* Do they realize that one of the sums on the paper will be the total number of positive or negative candies they are handed (assuming both colors were used)?

### LEARNING OBJECTIVE

Students add positive and negative integers.

### GROUPING

Pairs

### MATERIALS

- \* large bag of round, colored candy (Different-colored plastic chips or markers can be substituted for candy.)
- \* 3 bowls or cups for each pair of students
- \* paper and pencil for each pair