Chapter 5

Get Ready

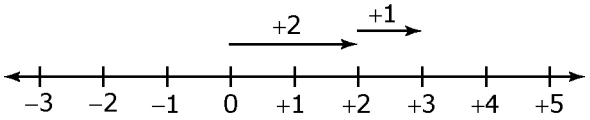
Name: _____ Date: _____

BLM 5–2

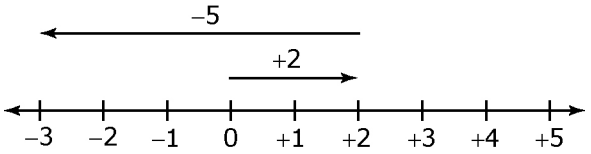
Adding Integers

The diagrams show how you can model the addition of integers.

(+2) + (+1)



(+2) + (−5)



Begin at 0 and move right (positive) or left (negative) according to the first integer. From there, move right or left according to the value of the second integer. The answer is the value where you end on the number line.

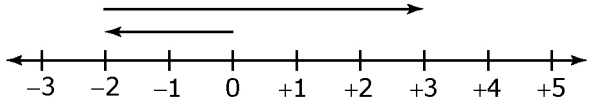
(+2) + (+1) = +3 (+2) + (−5) = −3

1. Complete each addition statement. Use a number line to justify your answer.

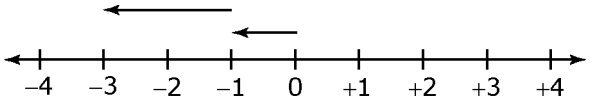
a) (+5) + (−2) **b)** (−3) + (+7)
c) (+1) + (+4) **d)** (−3) + (−2)

2. What addition statement does each number line model?

a)



b)



Subtracting Integers

You can subtract integers by adding the opposite.
The opposite of 2 is −2.
The opposite of +1 is −1.

You can also model these using materials or a diagram.

(+5) − (−2) = (+5) + (+2) = +7 or 7
(−3) − (+1) = (−3) + (−1) = −4

3. What is the opposite of each integer?

a) −5 **b)** +4 **c)** 13 **d)** −2

4. Solve.

a) (+3) − (−1) **b)** (−3) − (+2)
c) 5 − (+2) **d)** 2 − (−8)

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Using Expressions

The expression, $3w + 2$ consists of:

- a numerical coefficient, 3
- a variable, w
- a constant, +2

An expression can be thought of as a shorthand way of writing a word statement. For example, consider the word statement, "The length of a particular rectangle is two units more than triple its width". You could represent the rectangle's length with the expression, $3w+2$, where the variable w is its width.

5. For each expression, identify the numerical coefficient, the variable, and the constant.

a) $2x - 7$ **b)** $-3b + 5$

c) $t - 4$ **d)** $3 - 6r$

6. Write an expression for each phrase. State what each variable represents.

a) Sarah is 5 years younger than her sister.

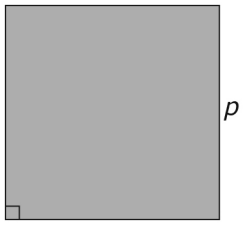
b) The width of the rectangle is 3 cm less than twice its length.

c) The perimeter of a triangle is increased by 14 cm.

d) The school sold half of the concert tickets it expected to sell.

7. Use the information on each diagram to answer the questions below.

a) What is the perimeter of the square?



b) What is a word statement describing the length of the rectangle in terms of its width?