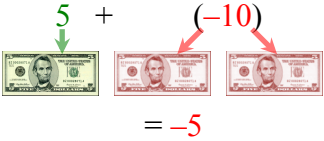
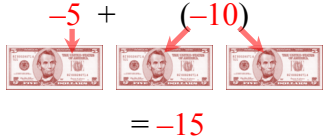
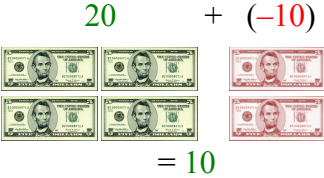


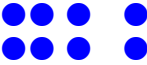
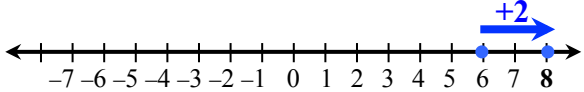
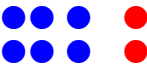
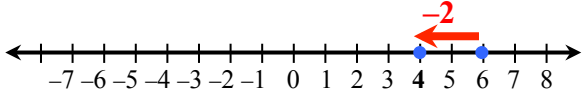

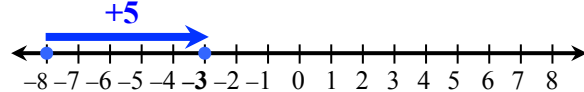

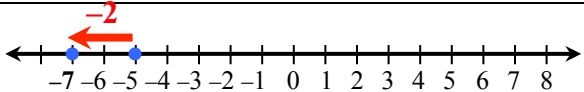
3.2 Addition of Integers

Consider the following scenarios:

<p>I have \$5 in my pocket, but I owe \$10 to my brother. If I give my brother \$5, how much will I still owe him?</p> <p>We can illustrate this by the sum</p>  <p>I still owe \$5, thus my net worth is -5 dollars.</p>	<p>If I owe \$5 to my cousin and \$10 to another cousin, how much do I owe altogether?</p> <p>We can illustrate this debt by the sum</p>  <p>I owe 15 dollars, thus my net worth is -15 dollars.</p>	<p>I have \$20, but owe \$10 to my friend. If I give \$10 to my friend, how much money do I have left?</p> <p>We can illustrate this by the sum</p>  <p>I have 10 dollars left.</p>
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Notice how the green dollars and red dollars help to set our thinking about how to compute addition of the positive and negative dollar amounts. Let's use a similar coloring scheme (using blue instead of green to match the WebAssign problems) to set up a method for adding integers in any context.

Integer Counters	
● = +1	● = -1
In a collection of counters,	
● ● = 0	

Problem	Integer counters	Number line model
$6 + 2 = 8$		
$6 + (-2) = 4$		
$-8 + 5 = -3$		
$-5 + (-2) = -7$		

<i>Demonstration Problems</i>	<i>Practice Problems</i>
1. (a) $5 + (-3) =$	1. (b) $12 + (-5) =$
2. (a) $-3 + (-5) =$	2. (b) $-6 + (-8) =$
3. (a) $-18 + 12 =$	3. (b) $-25 + 13 =$
4. (a) $-42 + (-35) =$	4. (b) $-53 + (-24) =$
5. (a) $-15 + (-2) =$	5. (b) $-12 + (-3) =$
6. (a) $-53 + 25 =$	6. (b) $-37 + 32 =$
7. (a) $-245 + 299 =$	7. (b) $-108 + 172 =$
8. (a) $52 + (-35) =$	8. (b) $42 + (-35) =$
Answers: 1. (b) 7; 2. (b) -14; 3 (b) -12; 4. (b) -77; 5. (b) -15; 6. (b) -5; 7. (b) 64; 8. (b) 7	