Homework 1.2
Compare the integers using <, >, or =

1) \(-8\) \(-3\)

2) \(-2\) \(-167\)

Order the integer set from least to greatest

3) \(3, -10, -15, 6, -4\)

4) \(-1, -11, -111, 0, 3, -3\)

Add

5) \(-8 + 3\)

6) \(4 + 17\)

7) \(-9 + (-2)\)

8) \(-4 + 4\)

9) \(5 + (-16)\)

10) \(-9,876,543 + (9,876,543)\)

11) \(-24 + 23\)

12) \(-18 + 15\)
Homework 1.3

Subtract

1) \(-8 - 3\)

2) \(0 - 12\)

3) \(27 - (-8)\)

4) \(-16 - (-7)\)

5) \(-15 - (13)\)

6) \(-15 - (+13)\)

7) \(-18 - (-20)\)

8) \(-4 - (-4)\)

9) The annual temperature in Ramstein fluctuates from \(-3\)°C to \(36\)°C. Find the difference between the maximum and minimum temperatures.

10) True or False: When \(n\) is a negative integer, \(n - n = 0\)

11) Ms. Ritter has \$36. Mr. Jordan has \$7. What is the difference between their amounts?
1.4 Homework

Represent Problems 1–2 using both a number line diagram and an equation.

1. David and ___ are playing an Integer Card Game. David drew three cards, \(-6\), \(12\), and \(-4\). What is the sum of the cards in his hand? Model your answer on the number line below.

2. If a football player gains 40 yards on a play, but on the next play, he loses 10 yards, what would his total yards be for the game if he ran for another 60 yards? What did you count by to label the units on your number line?

3. Find the sums (any method).
   a. \(-2 + 9\)
   b. \(-8 + -8\)
   c. \(-4 + (-6) + 10\)
   d. \(5 + 7 + (-11)\)

4. Mark an integer between 1 and 5 on a number line, and label it point \(Z\). Then, locate and label each of the following points by finding the sums.
   a. Point \(A\): \(Z + 5\)
   b. Point \(B\): \(Z + (-3)\)
   c. Point \(C\): \((-4) + (-2) + Z\)
   d. Point \(D\): \(-3 + Z + 1\)
5. Do the arrows correctly represent the equation $4 + (-7) + 5 = 2$? If not, draw a correct model below.

![Correct model diagram]

6. Below is a table showing the change in temperature from morning to afternoon for one week.
   a. Use the vertical number line to help you complete the table. As an example, the first row is completed for you.

<table>
<thead>
<tr>
<th>Morning Temperature</th>
<th>Change</th>
<th>Afternoon Temperature</th>
<th>Equation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1°C</td>
<td>Rise of 3°C</td>
<td>4°C</td>
<td>1 + 3 = 4</td>
</tr>
<tr>
<td>2°C</td>
<td>Rise of 8°C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-2°C</td>
<td>Fall of 6°C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-4°C</td>
<td>Rise of 7°C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6°C</td>
<td>Fall of 9°C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-5°C</td>
<td>Fall of 5°C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7°C</td>
<td>Fall of 7°C</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

b. Do you agree or disagree with the following statement: “A rise of $-7°C$” means “a fall of $7°C$”? Explain.
   (Note: No one would ever say, “A rise of $-7$ degrees”; however, mathematically speaking, it is an equivalent phrase.)
1.5 Homework

1) \(-8 \cdot 3 = \)
2) \(-8 \cdot -2 = \)
3) \(4 \cdot 3 = \)

4) \(8 \cdot -7 = \)
5) \(-4 \cdot -4 = \)
6) \(-6 \cdot 4 = \)

7) \(-3 \cdot 3 = \)
8) \(9 \cdot -9 = \)
9) \(6 \cdot 6 = \)

10) \(-6 \cdot -6 = \)
11) \(-2 \cdot 7 = \)
12) \(-7 \cdot 2 = \)

13) \(5 \cdot -8 = \)
14) \(-8 \cdot 6 = \)
15) \(-12 \cdot 11 = \)
Homework 1.6

1) \( 25 - 52 \)  
2) \(-4(9)\)  
3) \(-4 + (9)\)  

4) \(-7 \cdot -2\)  
5) \(-7 + (-2)\)  
6) \(-7 - (-2)\)  

7) \(-78 - 87\)  
8) \(-4 + (3)(-9)\)  
9) \(3^2\)  

10) \(-3^2\)  
11) \((-3)^2\)  
12) \(-(-3)^2\)  

13) \(-2^3\)  
14) \(2^3\)  
15) \((-2)^3\)  

16) 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. Explain your reasoning.

17) Write a real-world problem that can be modeled by \(4 \times (-7)\).
Homework 1.7

1) $-6 + 2$
2) $-6 - 2$
3) $-6 + (-2)$

4) $-6 - (-2)$
5) $6 + 2$
6) $6 - 2$

7) $6 + (-2)$
8) $6 - (-2)$
9) $-6 \cdot 2$

10) $-6 \cdot -2$
11) $6 \cdot 2$
12) $6 \cdot -2$

13) $\frac{-6}{2}$
14) $\frac{-6}{-2}$
15) $\frac{6}{-2}$

16. Find the missing values in each column.

<table>
<thead>
<tr>
<th>Column A</th>
<th>Column B</th>
</tr>
</thead>
<tbody>
<tr>
<td>$48 \div 4 =$</td>
<td>$24 \div 4 =$</td>
</tr>
<tr>
<td>$-48 \div (-4) =$</td>
<td>$-24 \div (-4) =$</td>
</tr>
<tr>
<td>$-48 \div 4 =$</td>
<td>$-24 \div 4 =$</td>
</tr>
<tr>
<td>$48 \div (-4) =$</td>
<td>$24 \div (-4) =$</td>
</tr>
</tbody>
</table>

17. Describe the pattern you see between the answers for Columns A and B in Problem 1 (e.g., compare the first answer in Column A to the first answer in Column B; compare the second answer in Column A to the second answer in Column B). Why is this so?
1.8 Homework

**Fluency Exercise: Integer Division**

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>$-56 \div (-7) = $</td>
<td>15.</td>
<td>$-28 \div (-7) =$</td>
</tr>
<tr>
<td>2.</td>
<td>$-56 \div (-8) = $</td>
<td>16.</td>
<td>$-28 \div (-4) =$</td>
</tr>
<tr>
<td>3.</td>
<td>$56 \div (-8) = $</td>
<td>17.</td>
<td>$28 \div 4 =$</td>
</tr>
<tr>
<td>4.</td>
<td>$-56 \div 7 = $</td>
<td>18.</td>
<td>$-28 \div 7 =$</td>
</tr>
<tr>
<td>5.</td>
<td>$-40 \div (-5) = $</td>
<td>19.</td>
<td>$-20 \div (-5) =$</td>
</tr>
<tr>
<td>6.</td>
<td>$-40 \div (-4) = $</td>
<td>20.</td>
<td>$-20 \div (-4) =$</td>
</tr>
<tr>
<td>7.</td>
<td>$40 \div (-4) = $</td>
<td>21.</td>
<td>$20 \div (-4) =$</td>
</tr>
<tr>
<td>8.</td>
<td>$-40 \div 5 = $</td>
<td>22.</td>
<td>$-20 \div 5 =$</td>
</tr>
<tr>
<td>9.</td>
<td>$-16 \div (-4) = $</td>
<td>23.</td>
<td>$-8 \div (-4) =$</td>
</tr>
<tr>
<td>10.</td>
<td>$-16 \div (-2) = $</td>
<td>24.</td>
<td>$-8 \div (-2) =$</td>
</tr>
<tr>
<td>11.</td>
<td>$16 \div (-2) = $</td>
<td>25.</td>
<td>$8 \div (-2) =$</td>
</tr>
<tr>
<td>12.</td>
<td>$-16 \div 4 = $</td>
<td>26.</td>
<td>$-8 \div 4 =$</td>
</tr>
<tr>
<td>13.</td>
<td>$-3 \div (-4) = $</td>
<td>27.</td>
<td>$4 \div (-8) =$</td>
</tr>
<tr>
<td>14.</td>
<td>$-3 \div 4 = $</td>
<td>28.</td>
<td>$-4 \div 8 =$</td>
</tr>
<tr>
<td>15.</td>
<td>$-14 \div (-7) =$</td>
<td>19.</td>
<td>$-10 \div (-5) =$</td>
</tr>
<tr>
<td>16.</td>
<td>$-14 \div (-2) =$</td>
<td>20.</td>
<td>$-10 \div (-2) =$</td>
</tr>
<tr>
<td>17.</td>
<td>$14 \div (-2) =$</td>
<td>21.</td>
<td>$10 \div (-2) =$</td>
</tr>
<tr>
<td>18.</td>
<td>$-14 \div 7 =$</td>
<td>22.</td>
<td>$-10 \div 5 =$</td>
</tr>
<tr>
<td>19.</td>
<td>$-10 \div (-5) =$</td>
<td>23.</td>
<td>$-4 \div (-4) =$</td>
</tr>
<tr>
<td>20.</td>
<td>$-10 \div (-2) =$</td>
<td>24.</td>
<td>$-4 \div (-1) =$</td>
</tr>
<tr>
<td>21.</td>
<td>$10 \div (-2) =$</td>
<td>25.</td>
<td>$4 \div (-2) =$</td>
</tr>
<tr>
<td>22.</td>
<td>$-10 \div 5 =$</td>
<td>26.</td>
<td>$-4 \div 4 =$</td>
</tr>
<tr>
<td>23.</td>
<td>$-4 \div (-4) =$</td>
<td>27.</td>
<td>$1 \div (-4) =$</td>
</tr>
<tr>
<td>24.</td>
<td>$-4 \div (-1) =$</td>
<td>28.</td>
<td>$-4 \div 8 =$</td>
</tr>
<tr>
<td>25.</td>
<td>$4 \div (-2) =$</td>
<td>29.</td>
<td>$4 \div (-1) =$</td>
</tr>
<tr>
<td>26.</td>
<td>$-4 \div 1 =$</td>
<td>30.</td>
<td>$4 \div (-1) =$</td>
</tr>
<tr>
<td>27.</td>
<td>$1 \div (-4) =$</td>
<td>31.</td>
<td>$1 \div 4 =$</td>
</tr>
</tbody>
</table>