

Unit 5 Lesson 5: Representing Subtraction

1 Equivalent Equations (Warm up)

Student Task Statement

Consider the equation $2 + 3 = 5$. Here are some more equations, using the same numbers, that express the same relationship in a different way:

$$3 + 2 = 5$$

$$5 - 3 = 2$$

$$5 - 2 = 3$$

For each equation, write two more equations, using the same numbers, that express the same relationship in a different way.

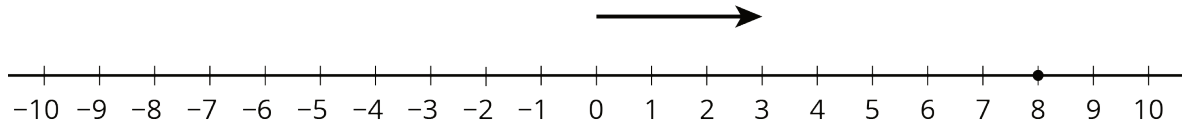
1. $9 + (-1) = 8$

2. $-11 + x = 7$

2 Subtraction with Number Lines

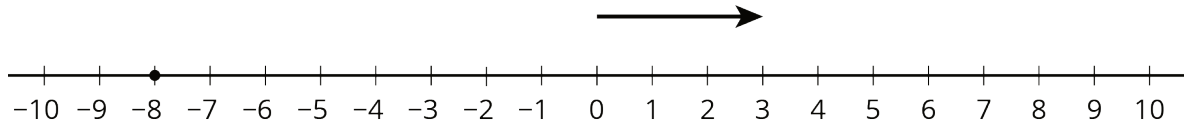
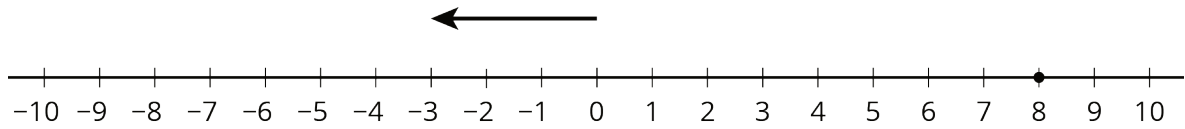
Student Task Statement

1. Here is an unfinished number line diagram that represents a sum of 8.



- How long should the other arrow be?
- For an equation that goes with this diagram, Mai writes $3 + ? = 8$. Tyler writes $8 - 3 = ?$. Do you agree with either of them?
- What is the unknown number? How do you know?

2. Here are two more unfinished diagrams that represent sums.



For each diagram:

- What equation would Mai write if she used the same reasoning as before?
 - What equation would Tyler write if he used the same reasoning as before?
 - How long should the other arrow be?
 - What number would complete each equation? Be prepared to explain your reasoning.
3. Draw a number line diagram for $(-8) - (-3) = ?$ What is the unknown number? How do you know?

3 We Can Add Instead

Student Task Statement

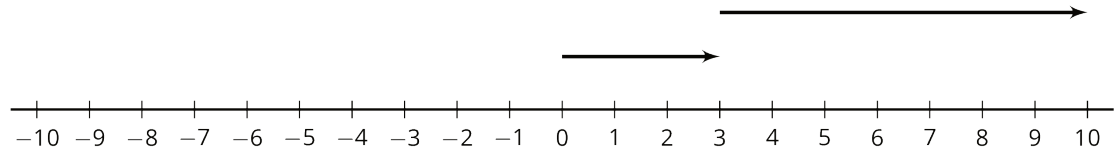
1. Match each diagram to one of these expressions:

$3 + 7$

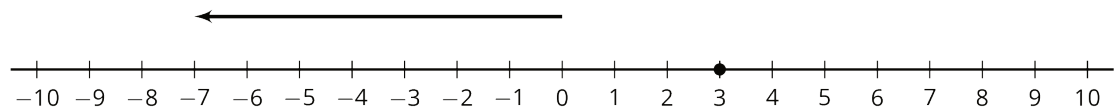
$3 - 7$

$3 + (-7)$

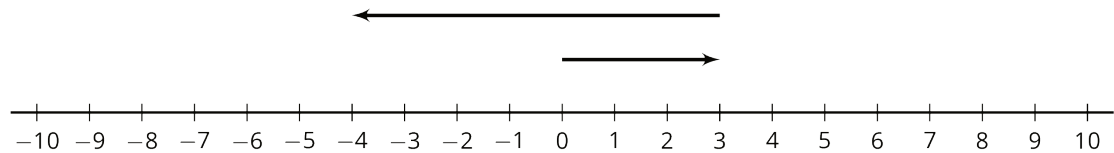
$3 - (-7)$



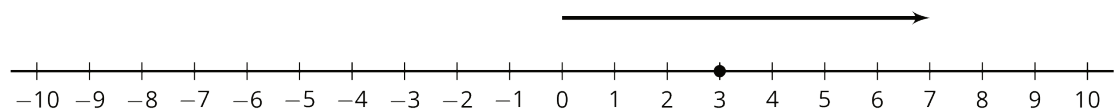
a.



b.



c.



d.

2. Which expressions in the first question have the same value? What do you notice?

3. Complete each of these tables. What do you notice?

expression	value
$8 + (-8)$	
$8 - 8$	
$8 + (-5)$	
$8 - 5$	
$8 + (-12)$	
$8 - 12$	

expression	value
$-5 + 5$	
$-5 - (-5)$	
$-5 + 9$	
$-5 - (-9)$	
$-5 + 2$	
$-5 - (-2)$	