

WHAT DO YOU NEED TODAY?

- Agenda
- Pencil
- Correcting pen
- 3-ring binder
- Start working on Spiral Review 2
- I will be looking at your Timeline today. **DO NOT TAKE OUT OF YOUR BINDER PLEASE!**

Aug 28-1:46 PM

Pgs. 504 - 505 (1-29 Odd) - 15 Problems

Use a number line to find each sum. (Explore Activ

1. $9 + (-3) = \underline{6}$



3. $-15 + 4 = \underline{-11}$



Circle the zero pairs in each model. Find the s

5. $-4 + 5 = \underline{1}$



7. $2 + (-5) = \underline{-3}$



Find each sum. (Example 1)

9. $-8 + 14 = \underline{6}$

11. $5 + (-21) = \underline{-16}$

13. $0 + (-5) = \underline{-5}$

15. Describe how to find the sums $-4 + 2$ and $-4 + (-2)$ on a number line.

To find $-4 + 2$, start at -4 and move 2 units to the right to -2 .

To find the sum $-4 + (-2)$, start at -4 and move 2 units to the left to -6 .

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17. $-53 + 45 = \underline{\quad -8 \quad}$

19. $-25 + 50 = \underline{\quad 25 \quad}$

21. $5 + (-100) = \underline{\quad -95 \quad}$

23. $-8 + (-2) + 3 = \underline{\quad -7 \quad}$

25. $\begin{array}{r} -500 + (-600) + 1200 \\ \hline -1,100 \end{array} = \underline{\quad 100 \quad}$

27. A soccer team is having a car wash. The team spent \$55 on supplies. They earned \$275, including tips. The team's profit is the amount the team made after paying for supplies. Write a sum of integers that represents the team's profit.

$$\underline{-55 + 275 = 220. \text{ The team's profit was } \$220.}$$

OR $275 + (-55) = 220$

29. The sum of two integers with different signs is 8. Give two possible integers that fit this description.

Sample answer: 10 and -2 and 12 and -4

$9 + (-1)$
 $21 + (-13)$ $16 + (-8)$

$275 - 55$
 ↑
 Difference

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LESSON
17.3 Subtracting Integers

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Modeling Integer Subtraction

pg. 507

You can use counters to find the difference of two integers. In some cases, you may need to add zero pairs.



$1 + (-1) = 0$

Model and find each difference using counters.

A Model $-4 - (-3)$.

Start with 4 negative counters to represent -4 .

Take away 3 negative counters to represent subtracting -3 .

What is left? 1 (-)

Find the difference: $-4 - (-3) = \underline{-1}$



B Model $6 - (-3)$.

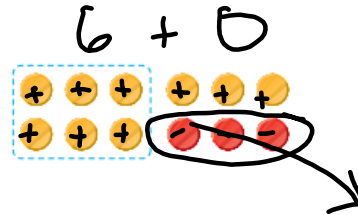
Start with 6 positive counters to represent 6.

You need to take away 3 negative counters, so add 3 zero pairs.

Take away 3 negative counters to represent subtracting -3 .

What is left? 9 (+)

Find the difference: $6 - (-3) = \underline{9}$



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C Model $-2 - (-5)$.

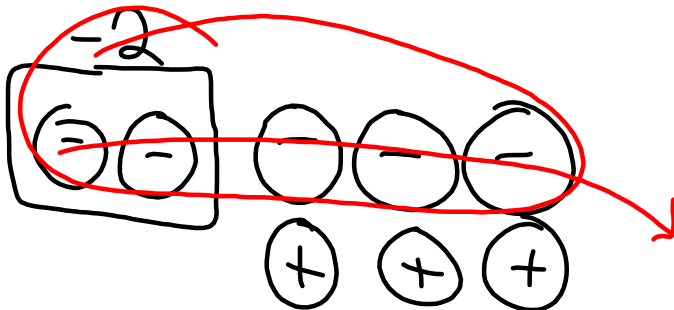
Start with 2 - counters.

You need to take away 5 - counters, so add 3 zero pairs.

Take away 5 - counters.

What is left? 3 +

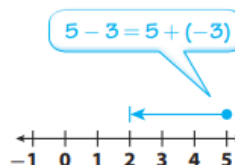
Find the difference: $-2 - (-5) = \underline{3}$



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pg. 508 **Subtracting on a Number Line**

To model the difference $5 - 3$ on a number line, you start at 5 and move 3 units to the left. Notice that you model the sum $5 + (-3)$ in the same way. Subtracting 3 is the same as adding its opposite, -3 .



You can use the fact that subtracting a number is the same as adding its opposite to find a difference of two integers.

Find each difference on a number line.

- A** Find $-1 - 5$ on a number line.

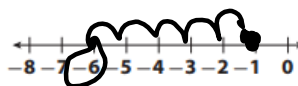
Rewrite subtraction as addition of the opposite.

$$-1 - 5 = -1 + \underline{-5}$$

Start at -1 and move 5 units to the left.

The difference is -6

$$-1 - 5 = -1 + (-5)$$



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You can use the fact that subtracting a number is the same as adding its opposite to find a difference of two integers.

- B** Find $-7 - (-3)$.

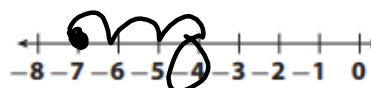
Rewrite subtraction as addition of the opposite.

$$-7 - (-3) = -7 + \underline{3}$$

Start at -7 and move 3 units to the right.

The difference is -4

$$-7 - (-3) = -7 + (3)$$



Aug 28-4:03 PM

You have a nice backyard lawn. Let's give it a 10 because it's perfect!



Your dog digs a hole in the yard (*add a negative*). You go out in the yard and take away that awful hole by filling it in with dirt (*subtract a negative*).

$$\begin{aligned} &10 \\ &10 + (-1) = 9 \\ &9 - (-1) = 10 \end{aligned}$$

The lawn is perfect again!


We are taking away a negative value so we are increasing the value!

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<https://www.youtube.com/watch?v=5f0rF4m9TGY>

minus a negative
the same as
plus a positive

Aug 28-3:50 PM



Keep- Cross -Change

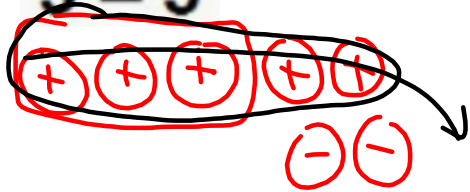
$$3 - 5$$

$$3 + -5 \text{ MAKE 2 MARKS!}$$

$$-2$$


Counters

$3 - 5$



$3 - 5 = 3 + (-5)$

number line



Aug 28-3:44 PM


<p>Rule #3</p> <p>Subtracting Both Positives</p> <p>_____</p> <p>_____</p> <p>Ex.</p> <p>Warning:</p> <p>_____</p> <p>_____</p>	<p>Rule #4</p> <p>Subtracting a Negative</p> <p>_____</p> <p>_____</p> <p>Ex.</p> <p>Warning:</p> <p>_____</p> <p>_____</p>
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Aug 29-11:25 AM

Rule #5 Integers
Subtracting ~~Negative-Positive~~

Keep-Cross-Change then apply the
rules of adding integers

Ex.

$\begin{array}{r} \text{KCC} \\ 8 \text{ } \overline{+} \text{ } 5 \\ \hline 8 + (-5) = 3 \end{array}$		$\begin{array}{r} \text{Kc C} \\ -8 \text{ } \overline{+} \text{ } (+5) \\ \hline -8 + 5 = -3 \end{array}$
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Warning:

Don't forget to make 2 marks!

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YOUR TURN

Find each difference.

4. $\begin{array}{r} \text{KCC} \\ -7 \text{ } \overline{+} \text{ } 2 \\ \hline -7 + (-2) = -9 \end{array}$

5. $\begin{array}{r} \text{KCC} \\ -1 \text{ } \overline{+} \text{ } (+3) \\ \hline -1 + 3 = 2 \end{array}$

6. $\begin{array}{r} \text{KcC} \\ 3 \text{ } \overline{+} \text{ } 5 \\ \hline 3 + (-5) = -2 \end{array}$

7. $\begin{array}{r} \text{KcC} \\ -8 \text{ } \overline{+} \text{ } (+4) \\ \hline -8 + 4 = -4 \end{array}$

Remember... When you
 subtract integers, you...

Make 2 Marks



Aug 28-3:57 PM

Homework

textbook page 510

1 - 15 all

Adding and Subtracting Integer test
will be Tuesday, September 4.

Aug 28-4:10 PM