

Name: \_\_\_\_\_

Date: \_\_\_\_\_

## Lesson 2: Subtraction Note Sheet

### Vocabulary

Subtrahend = The term being subtracted

Minuend = The term being subtracted from

Difference = The resulting term

Label the subtrahend, minuend, and difference in the equation:

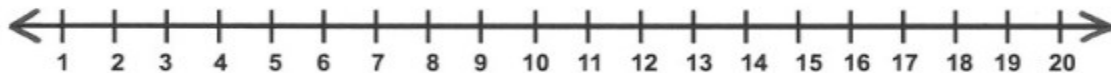
$$\underline{8} - \underline{5} = \underline{3}$$

### Subtraction with a Number Line

1.  $9 - 4 = \underline{\quad}$                        $\underline{\quad} + 4 = 9$



2.  $17 - 9 = \underline{\quad}$                        $\underline{\quad} + 9 = 17$



### Subtracting >1-digit numbers

$$\begin{array}{r} 59 \\ - 23 \\ \hline \end{array}$$

$$\begin{array}{r} 745 \\ - 267 \\ \hline \end{array}$$

$$\begin{array}{r} 23753 \\ - 9999 \\ \hline \end{array}$$

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## Properties

Verify or find a counterexample for the following properties:

(# represents any operation.)

Property Name	Definition	Counterexample?	Is it a property for subtraction?
Identity	$a \# 0 = a$ (0 is only the identity for addition and subtraction)	$\_\_\_ - 0 \neq \_\_\_$	
Commutative	$a \# b = b \# a$	$\_\_\_ - \_\_\_ \neq \_\_\_ - \_\_\_$	
Associative	$(a \# b) \# c = a \# (b \# c)$	$(\_\_\_ - \_\_\_) - \_\_\_ \neq \_\_\_ - (\_\_\_ - \_\_\_)$	

Takeaway: Subtraction is neither \_\_\_\_\_ nor \_\_\_\_\_!

## Challenge Problems

1.  $9 - 8 + 7 - 6 + 5 - 4 + 3 - 2 + 1$

2.  $(99 + 98 + 97 + 96 + 95 + 94 + 93 + \dots + 1) + (-1 - 2 - 3 - 4 - 5 - 6 - 7 - \dots - 99)$