

Van Miller  
 MATH 1350  
 Math for Elem. School Teachers  
 Dr. Alm 9/11/18

HW#3: 2, 3, 4, 11, 16

1st Exam: this Thursday! → 6 Question w/ parts

$$21021 + 11021$$

Step Counting:

$$21021 \xrightarrow{10000} 101021 \xrightarrow{1000} 102021 \xrightarrow{20} 102111 \xrightarrow{1} 102111$$

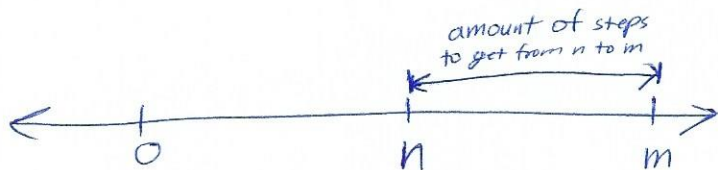
Add. Algo: ~~is~~ Much easier; only need this chart

1	21021	00	01	02
+ 11021	102112	10	11	12
		20	21	22

Ch. 5  
Subtraction:

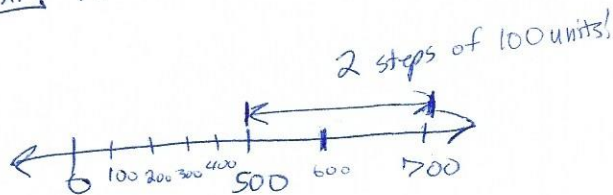
$m \geq n$  means either  $m > n$  or  $m = n$

For whole numbers  $m$  and  $n$ , with  $m \geq n$ ,  
 define  $m - n$  to be the whole number  $K$ ,  
 such that  $n + K = m$



Good test question!

Ex.  $700 - 500$



000 ...  
 100 ...  
 ...  
 500 ...  
 600 ...  
 700 ...

2 rows of 100 = 200

Ex.  $1200 - 300 = 900$  b/c if we skip count by 100's then we will have to skip 9 times,  
 So, 9 skips of 100 is 900.

★ (Notice that we mentally compute  $12-3$  when we skip-count by hundreds.)

### Subtraction Algorithm

★ Important ★

$$\begin{array}{r} 1658 \\ - 257 \\ \hline 1401 \end{array}$$

Eq. 5.5 on pg. 75

$$(5+7+3) - (4+3+2) = (5-4) + (7-3) + (3-2) = 1+4+1 = 6$$

$$\begin{aligned} 1658 - 257 &= (1000 + 600 + 50 + 8) - (\overset{0000+}{200} + 50 + 7) \\ &= (1,000 - 200) + (600 - 50) + (8 - 7) \\ &= 1,000 + 400 + 00 + 1 \end{aligned}$$

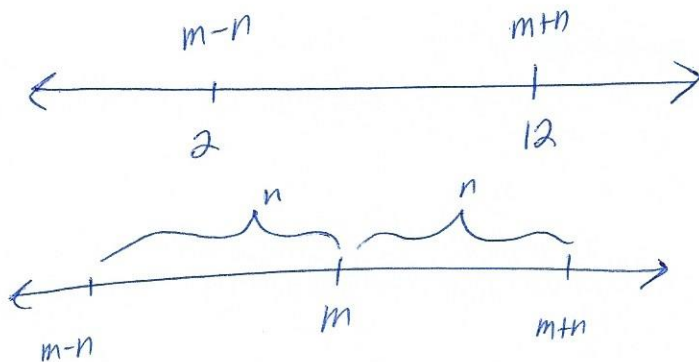
$$= 1401$$

$m+n$  are whole numbers

$$m+n=12,$$

$$\text{and } m-n=2$$

what are  $m+n$ ?



So,  $m$  is in the middle!

How many steps are between 2 + 12?

10

The middle of 10 is 5.

So,  $m$  is 5 steps from 2. (So, 7.)

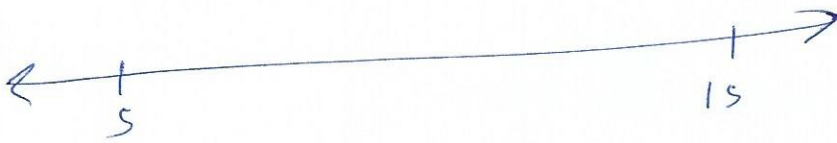
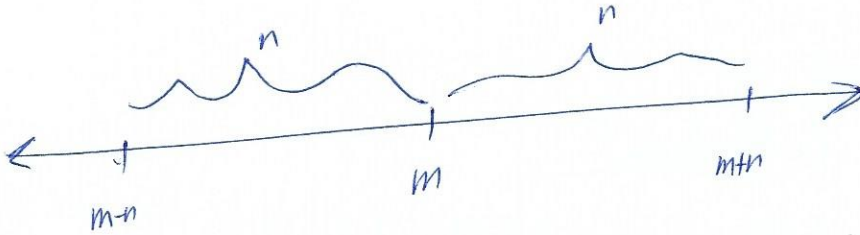
(5 more steps from 7 to 12.

$$\begin{array}{l} m=7 \\ n=5 \end{array}$$

Ex. 2

$$m+n=15$$

$$m-n=5$$



15 is 10 steps more than 5. So, the middle is  $5+5=10=m$

$n = \#$  of steps from 10 to 15  $= 5 = n$

---

$$m+n+n=20$$

$$m-n=8$$