



Warm Up Grade 7

Date: _____

Use tiles to represent $(+5) - (-7)$ = $(+12)$

Reverse order

Use tiles to represent $(-7) - (+5)$ = (-12)

Detailed description: The diagram illustrates integer subtraction using tiles. In the first part, $(+5) - (-7)$ is shown with 5 black tiles (positive) and 7 green tiles (negative) below them. A red oval highlights the 7 green tiles, with an arrow pointing to the right, indicating they are removed. The result is 5 black tiles and 7 green tiles, which equals $(+12)$. In the second part, $(-7) - (+5)$ is shown with 7 black tiles (negative) and 5 white tiles (positive) below them. A blue oval highlights the 5 white tiles, with an arrow pointing to the right, indicating they are removed. The result is 7 black tiles and 5 white tiles, which equals (-12) . A blue double-headed arrow connects the two results, $(+12)$ and (-12) . A curved arrow on the left labeled 'Reverse order' points from the first equation to the second.

What do you notice when we reverse the order in which integers are subtracted?

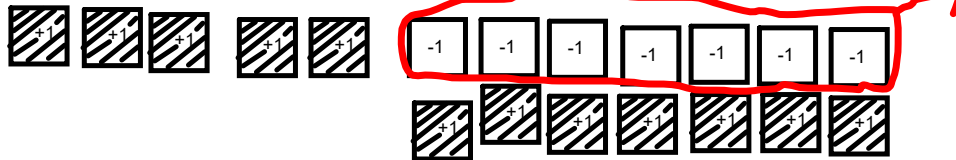
Reverse order of subtraction and you get opposite integers.

Warm Up Grade 7
Tuesday, Sept. 17

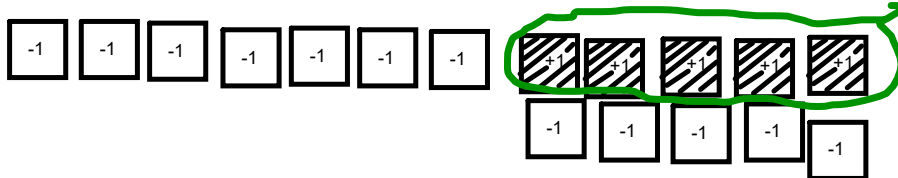


Solutions

Use tiles to represent $(+5) - (-7) = +12$



Use tiles to represent $(-7) - (+5) = -12$

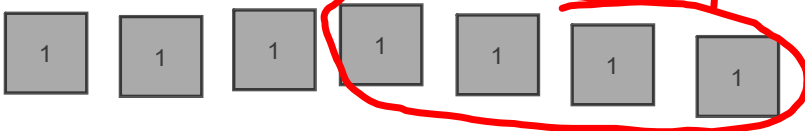


What do you notice when we reverse the order in which integers are subtracted?

When we reverse the order in which we subtract two integers, the answer is the opposite integer.

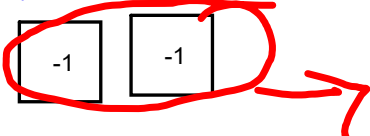
pg 69

a) $(+7) - (+4) = +3$



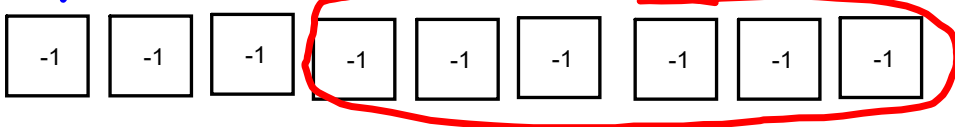
+3

b) $(-2) - (-2)$



0

c) $(-9) - (-6)$



-3

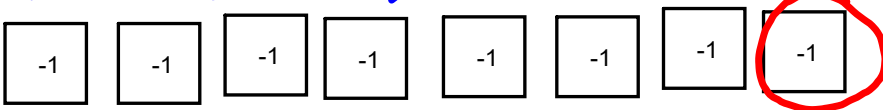
d) $(+4) - (+2)$



+2

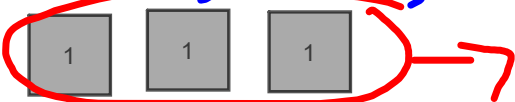


e) $(-8) - (-1)$



-7

f) $(+3) - (+3)$



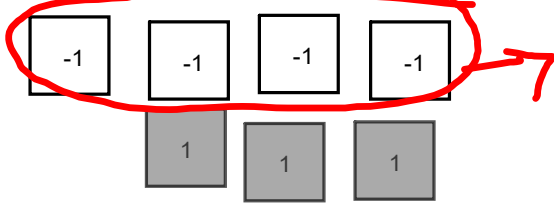
0

Homework

Solutions

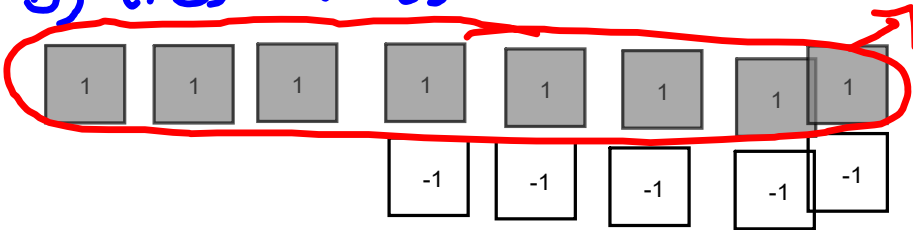
Homework Solutions

2a) $(-1) - (-4)$



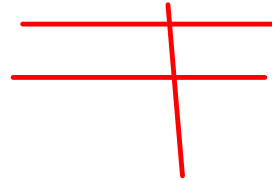
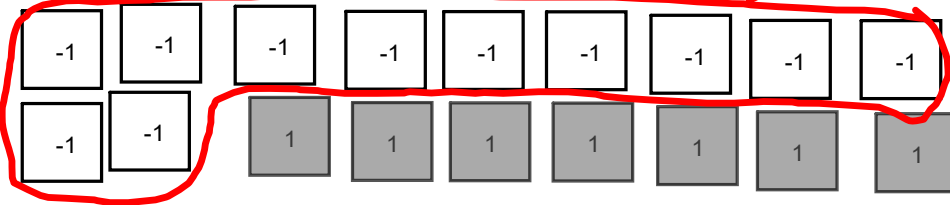
+3

b) $(+3) - (+8)$



-5

c) $(-4) - (-11)$



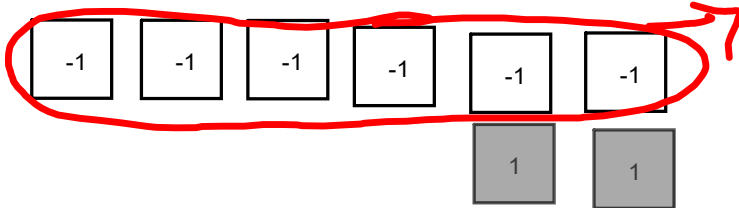
+7

d) $(+7) - (+8)$



-1

e) $(-4) - (-6)$

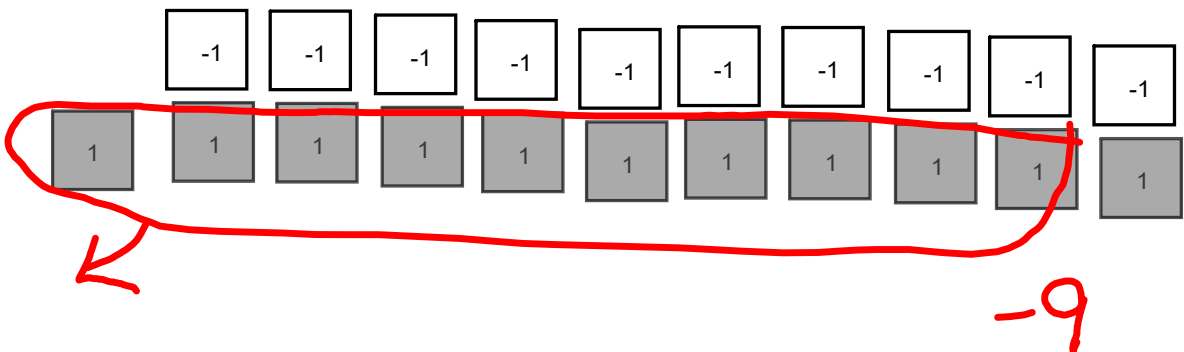


+2

f) $(+1) - (+10)$

Homework pg. 69 # 3,4,5,7,9,10,12,13

Try to figure the rule for subtracting integers

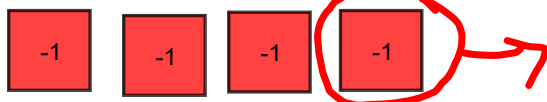


-9

Homework

Solutions

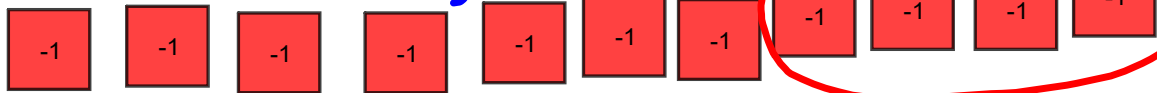
3a) $(-4) - (-1)$



-3

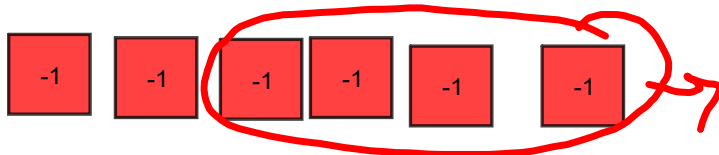
b) $(+8) - (+3) = +5$

c) $(-11) - (-4)$



d) $(+8) - (+7) = +1$

e) $(-6) - (-4)$

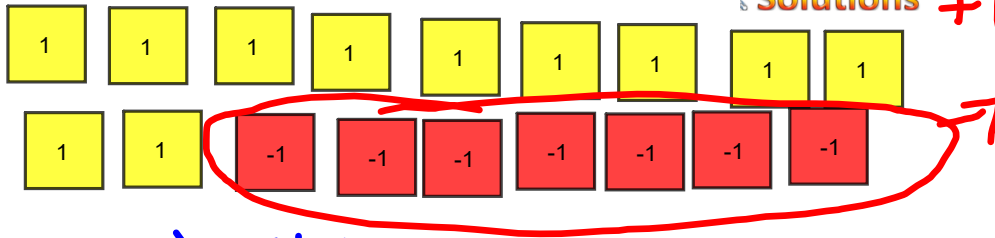


-2

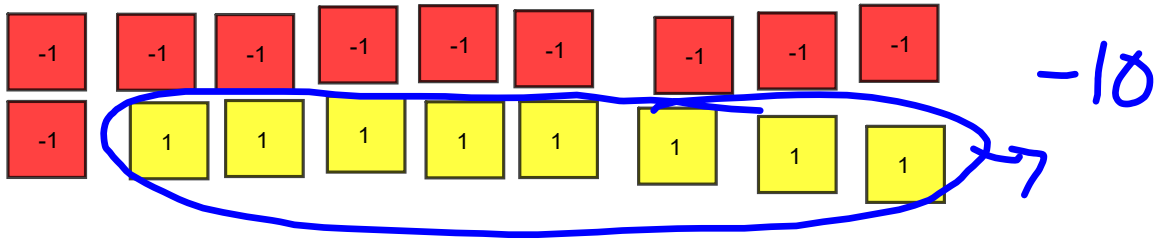
f) $(+10) - (+1) = +9$

4a) $(+4) - (-7)$

Homework
Solutions $+11$

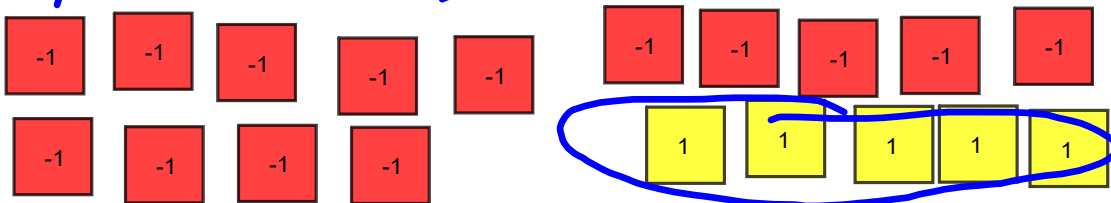


b) $(-2) - (+8)$

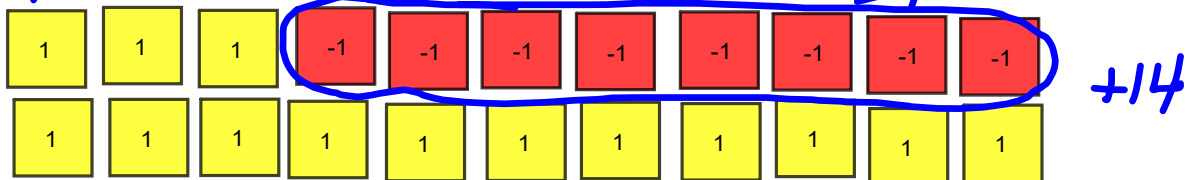


c) $(-9) - (+5)$

$= -14$

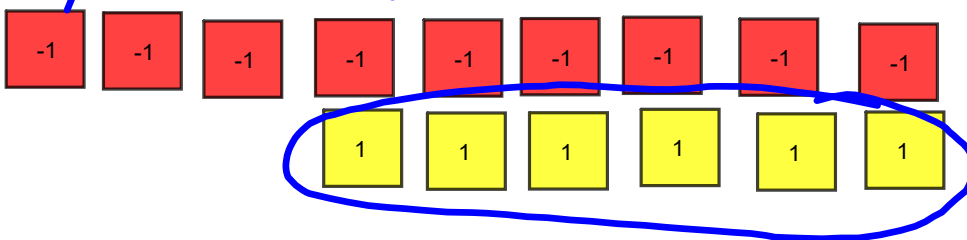


d) $(+6) - (-8)$

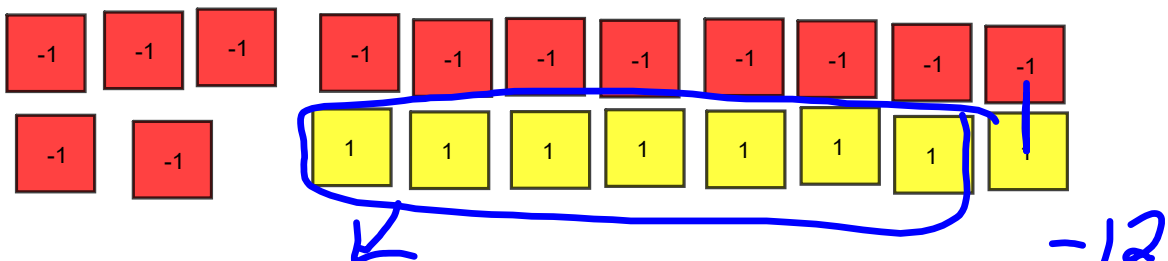


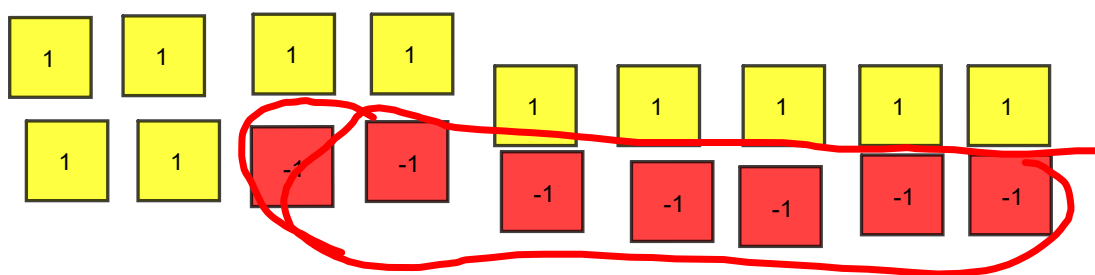
e) $(-3) - (+6)$

$= -9$



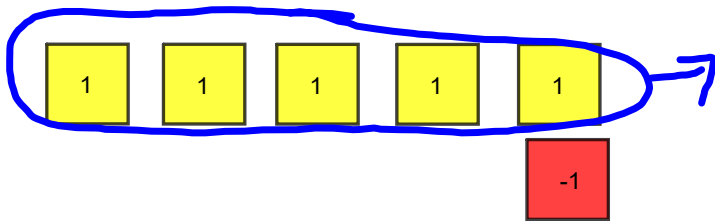
f) $(-5) - (+7)$





$$(+4) - (-7)$$

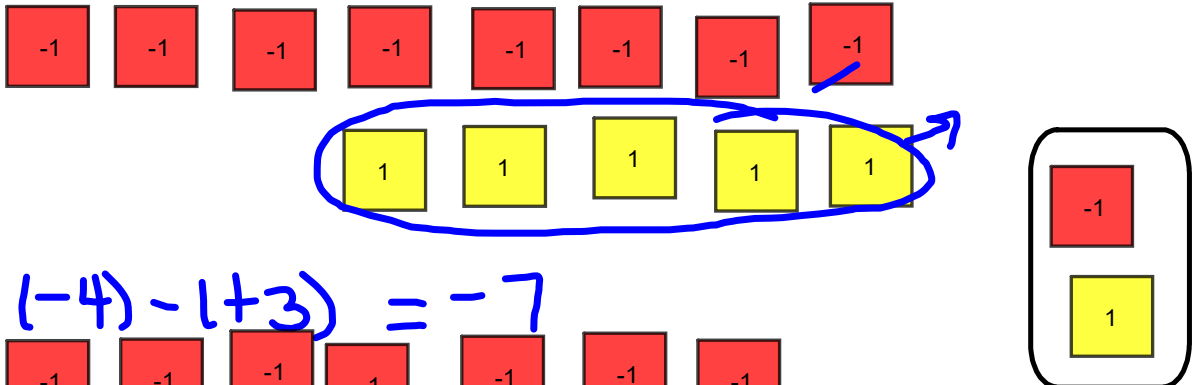
5a) $(+4) - (+5) = -1$



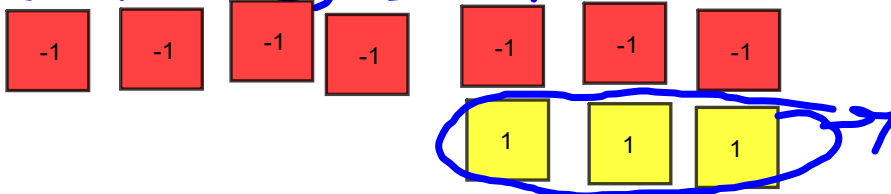
Homework

Solutions

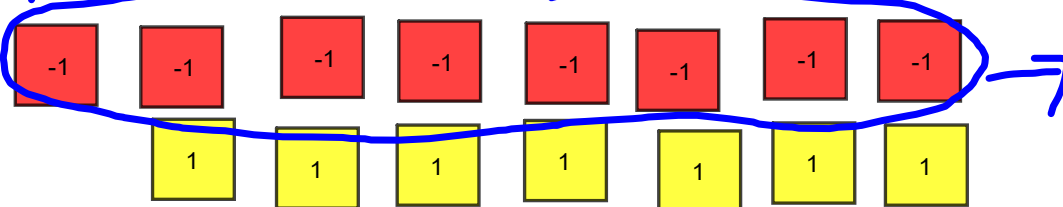
b) $(-3) - (+5) = -8$



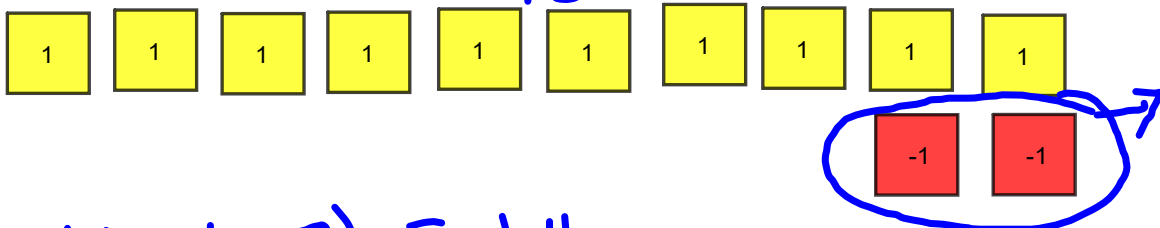
c) $(-4) - (+3) = -7$



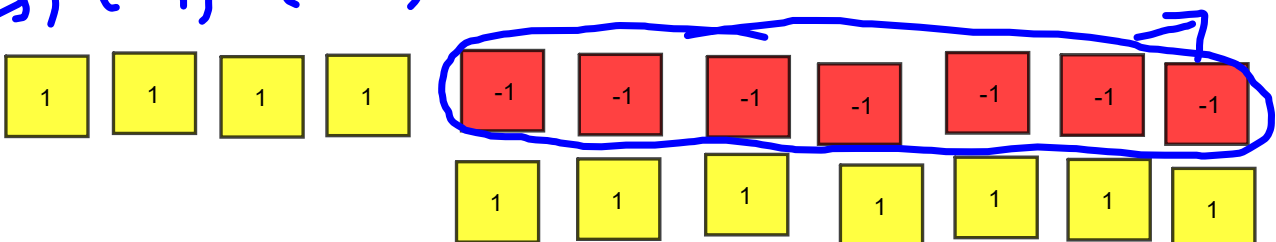
d) $(-1) - (-8) = +7$



e) $(+8) - (-2) = +10$



f) $(+4) - (-7) = +11$



These are the answers from the homework. Do you notice anything?

pg. 69

1 (a) $(+7) - (+4) = (+3)$

3 (a) $(-4) - (-1) = -3$

(b) $(-2) - (-2) = 0$

(b) $(+8) - (+3) = +5$

(c) $(-9) - (-6) = -3$

(c) $(-11) - (-4) = -7$

(d) $(+4) - (+2) = +2$

(d) $(+8) - (+7) = +1$

(e) $(-8) - (-1) = -7$

(e) $(-6) - (-4) = -2$

(f) $(+3) - (+3) = 0$

(f) $(+10) - (+1) = +9$

2 (a) $(-1) - (-4) = +3$

(b) $(+3) - (+8) = -5$

$(+3) + (-8) = -5$

(c) $(-4) - (-11) = +7$

4. (a) $(+4) - (-7) = +11$

$(+4) + (+7) = +11$

(b) $(-2) - (+8) = -10$

$(-2) + (-8) = -10$

(d) $(+7) - (+8) = -1$

(c) $(-9) - (+5) = -14$

$(-9) + (-5) = -14$

$(+7) + (-8) = -1$

(d) $(+6) - (-8) = +14$

$(+6) + (+8) = +14$

(f) $(+1) - (+10) = -9$

(e) $(-3) - (+6) = -9$

$(-3) + (-6) = -9$

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

(f) $(-5) - (+7) = -12$

5. (a) $(+4) - (+5) =$

$$(+4) + (-5) = -1$$

(b) $(-3) - (+5)$

$$(-3) + (-5) = -8$$

(c) $(-4) - (+3)$

$$(-4) + (-3) = -7$$

(d) $(-1) - (-8)$

$$(-1) + (+8) = +7$$

(e) $(+8) - (-2)$

$$(+8) + (+2) = +10$$

(f) $(+4) - (-7)$

$$(+4) + (+7) = +11$$

$$\begin{array}{l} (-11) - (+3) = -14 \\ (-11) + (-3) \end{array}$$

$$\begin{array}{l} (+5) - (-2) = +7 \\ (+5) + (+2) \end{array}$$

$$\begin{array}{l} (-3) - (+4) = -7 \\ (-3) + (-4) \end{array}$$

$$(-2) - (+3)$$

↓ ↓
add opposite

$$(-2) + (-3) = (-5)$$

use adding Rules

Rules for Subtracting Integers

When you are subtracting integers, you can change the subtraction sign to addition, then change the number after the subtraction sign to its opposite. Then simply use your rules for adding integers. The number before the subtraction sign never changes.

Another way of saying the above is to "Add the Opposite"

Examples:

$(+9) - (-2)$	$(-15) - (+5)$	$(+12) - (+16)$
$(+9) + (+2) = +11$	$(-15) + (-5) = -20$	$(+12) + (-16) = -4$
$(+7) - (-5)$	$(-2) - (-9)$	$(-10) - (-8)$
$(+7) + (+5) = +12$	$(-2) + (+9) = +7$	$(-10) + (+8) = -2$

Whenever you do subtracting integers questions you have to show the second step as done above.

Try some

(a) $(-6) - (+3)$ $(-6) + (-3) = (-9)$	(b) $(+7) - (-5)$ $(+7) + (+5) = (+12)$
(c) $(+10) - (+12)$ $(+10) + (-12) = (-2)$	(d) $(-3) - (-8)$ $(-3) + (+8) = +5$
(e) $(+3) - (+10)$ $(+3) + (-10) = (-7)$	(f) $(-12) - (-3)$ $(-12) + (+3) = (-9)$
(g) $(+7) - (-6)$ $(+7) + (+6) = (+13)$	(h) $(+20) - (+15)$ $(+20) + (-15) = (+5)$

Try some

(a) $(-6) - (+3)$

(b) $(+7) - (-5)$

(c) $(+10) - (+12)$

(d) $(-3) - (-8)$

(e) $(+3) - (+10)$

(f) $(-12) - (-3)$

(g) $(+7) - (-6)$

(h) $(+20) - (+15)$

USE RULES FOR ALL (No tiles or Number lines

Homework pg. 69-70 #~~4~~, 5, 7ai, 10,12, 13ab

pg 73 # 1,

~~#2 (only reverse order for 1a, 1b) then answer
how are they different from 1a, & 1b),~~

#3 (using rules instead of number line).

$() - () =$
↓
+
loop

Quiz on subtraction SOON

pg. 69 # 7,9,10,12,13

7 a) (i) $(+3) - (+1) = +2$

$$\begin{array}{l} (+1) - (+3) \\ (+1) + (-3) = -2 \end{array}$$

(ii) $(-3) - (-2)$
 $(-3) + (+2) = -1$

$$\begin{array}{l} (-2) - (-3) \\ (-2) + (+3) = +1 \end{array}$$

(iii) $(+4) - (-3)$
 $(+4) + (+3) = +7$

$$\begin{array}{l} (-3) - (+4) \\ (-3) + (-4) = -7 \end{array}$$

7 b) The order in which you subtract integers is important
 $(+3) - (+1)$ is not the same
 as $(+1) - (+3)$

9. Subtraction question with answer:

a) $+2$

$(+4) - (+2)$

$(+10) - (+8)$

b) (-3)

$(-5) - (-2)$

$(-8) - (-5)$

$(-1) - (+2)$

c) $+5$

$(+12) - (+7)$

$(+9) - (+4)$

$(+4) - (-1)$

d) -6

$(-8) - (-2)$

$(-5) - (+1)$

$(-3) - (+3)$

$$10 \text{ a) } (+3) - (-1)$$

$$(+3) + (+1)$$

$$+4$$

Greater

$$(-3) - (+1)$$

$$(-3) + (-1)$$

$$-4$$

$$b) (-4) - (-5)$$

$$(-4) + (+5)$$

$$+1$$

Greater

$$(+4) - (+5)$$

$$(+4) + (-5)$$

$$-1$$

$$12 \text{ a) } (+4) - \square = +3$$

$$+1$$

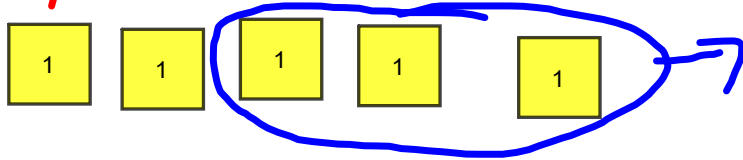
$$b) (+3) - \square = -1$$

$$+4$$

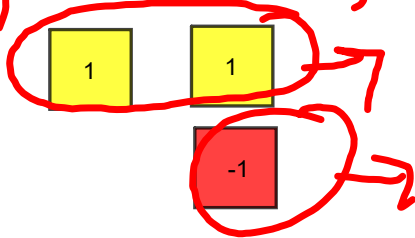
$$c) \square - (+1) = +4$$

$$+5$$

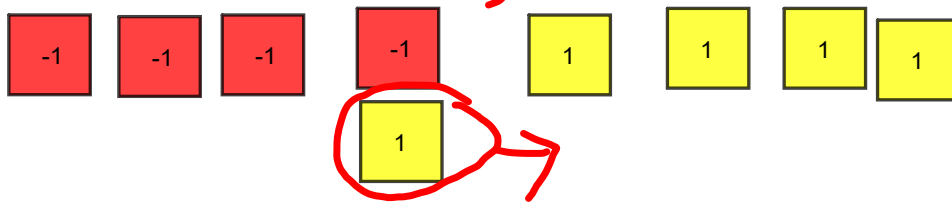
B a) $(+4) + (+1) - (+3) = +2$



b) $(+1) - (+2) - (-1) = 0$



c) $(-3) - (+1) + (+4) = 0$



d) $(-2) - (-4) + (-1)$
 $(-2) + (+4) + (-1) = +1$

e) $(+2) - (+1) - (+4)$
 $(+2) + (-1) + (-4) = -3$

f) $(+1) - (+2) + (+1)$
 $(+1) + (-2) + (+1) = 0$