



Warm Up Grade 7

Date: Sept. 26

Test Oct. 4

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



Redraw what is left



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

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



Redraw answer



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

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

Order matters with subtraction.

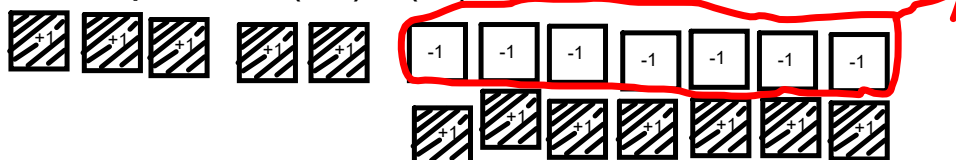
Warm Up Grade 7

Tuesday, Sept. 17

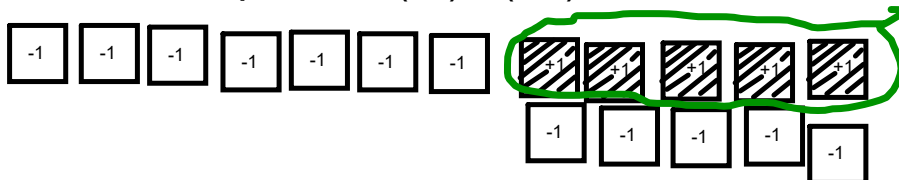


Solutions

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



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

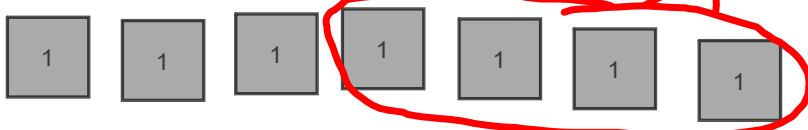


What do you notice when we reverse the order in which integers are subtracted?

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

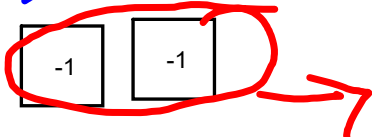
pg 69

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



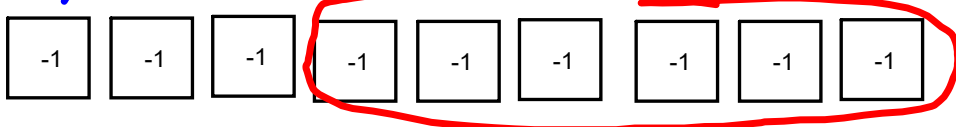
+3

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



0

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



-3

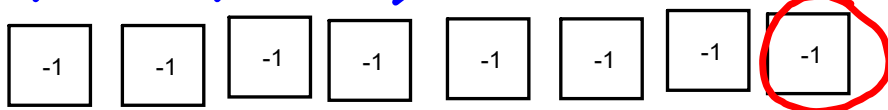
d) $(+4) - (+2)$



+2

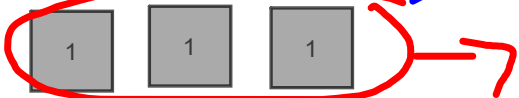


e) $(-8) - (-1)$



-7

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



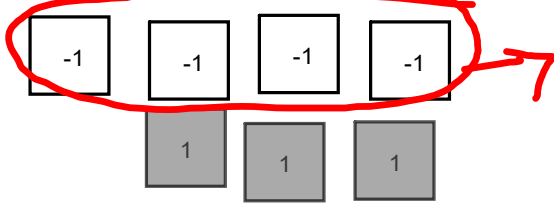
0

Homework

Solutions

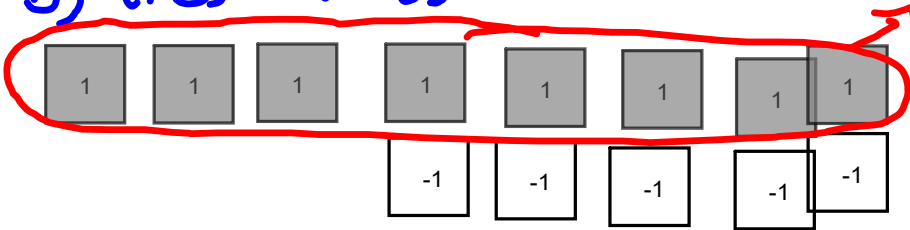
Homework Solutions

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



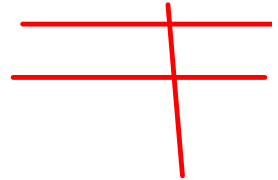
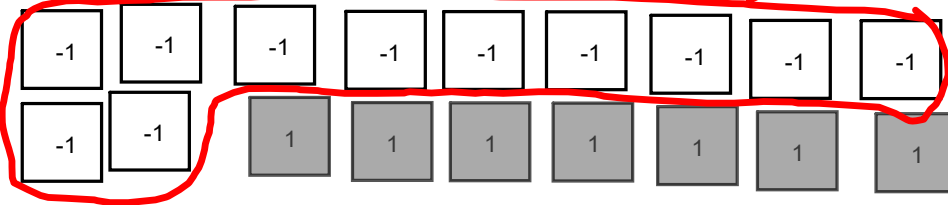
+3

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



-5

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



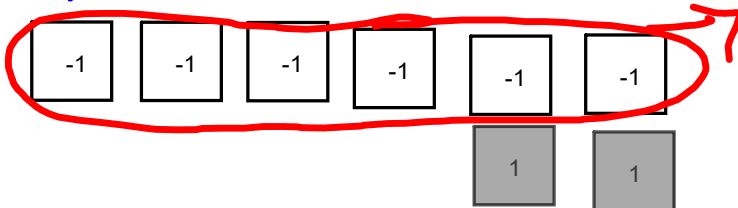
+7

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



-1

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

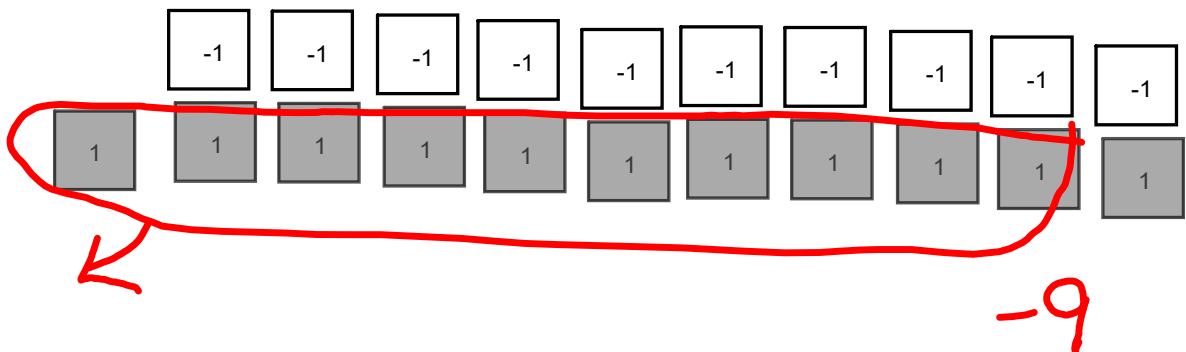


+2

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

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

Try to figure the rule for subtracting integers

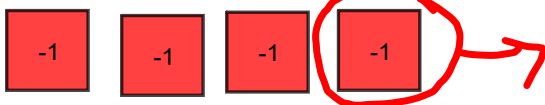


-9

Homework

-3 Solutions

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



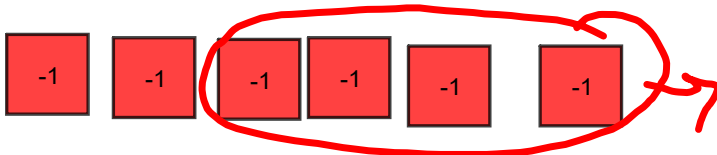
b) $(+8) - (+3) = +5$

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



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

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



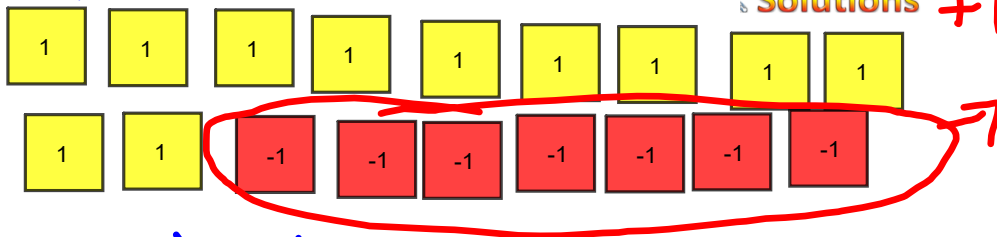
-2

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

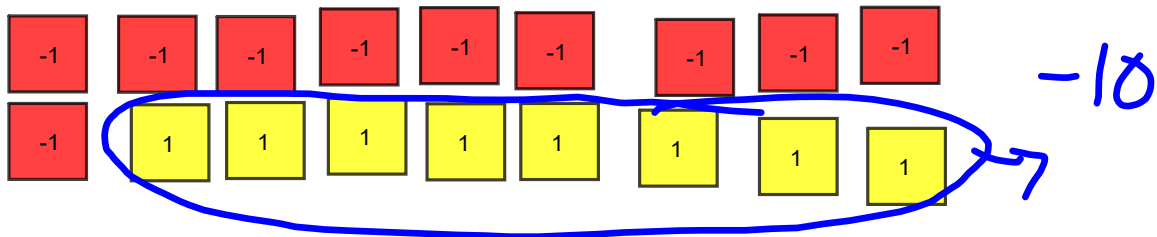
4a) $(+4) - (-7)$

Homework

Solutions $+11$

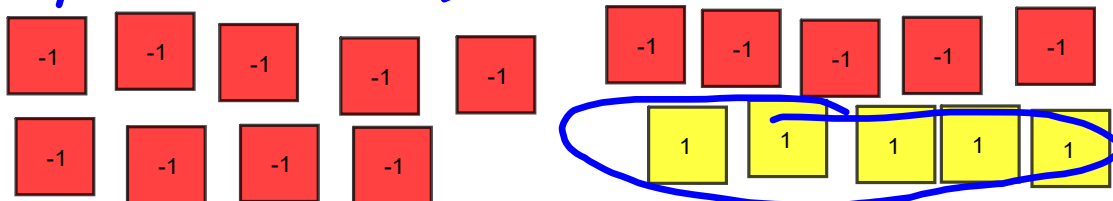


b) $(-2) - (+8)$

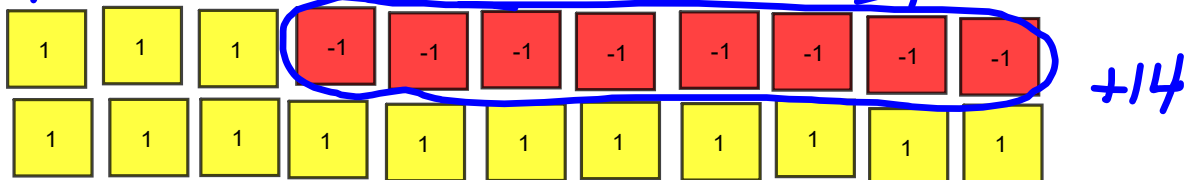


c) $(-9) - (+5)$

$= -14$

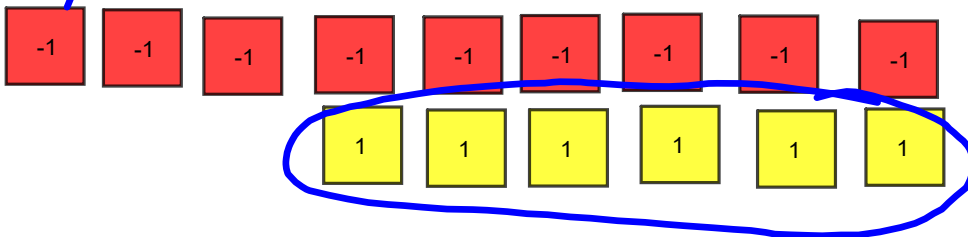


d) $(+6) - (-8)$

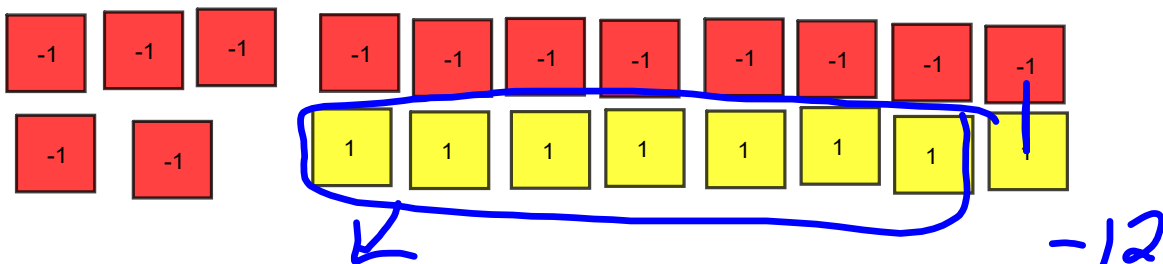


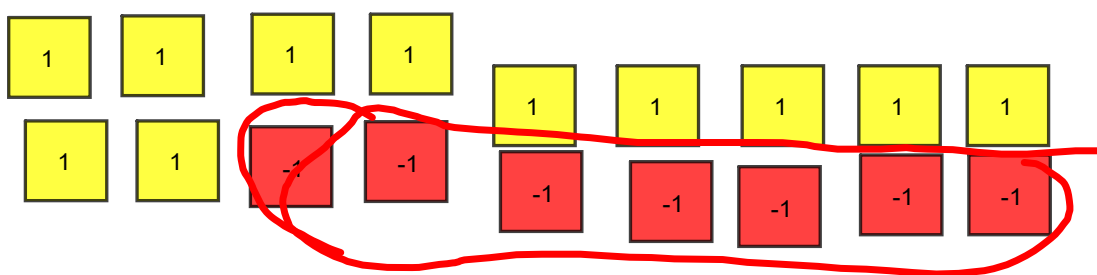
e) $(-3) - (+6)$

$= -9$



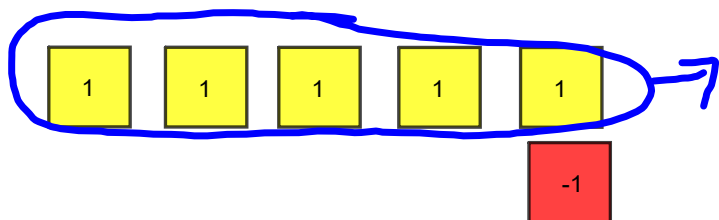
f) $(-5) - (+7)$





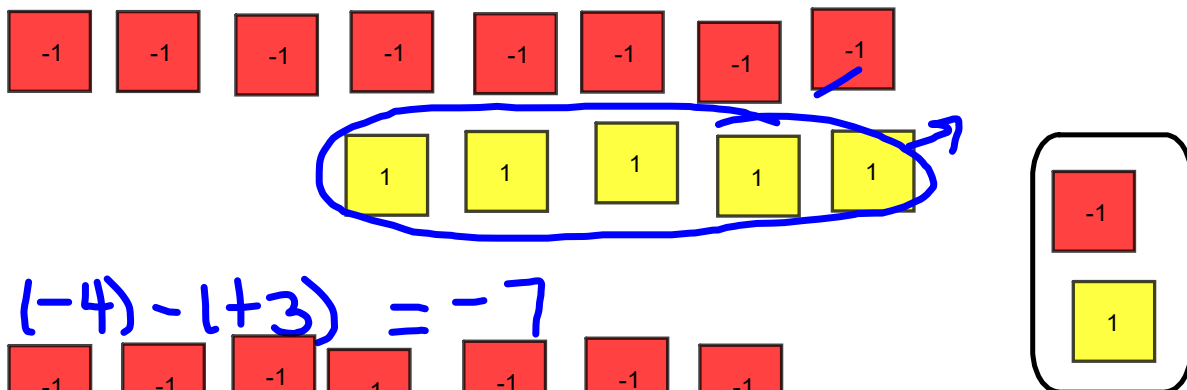
$$(+4) - (-7)$$

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

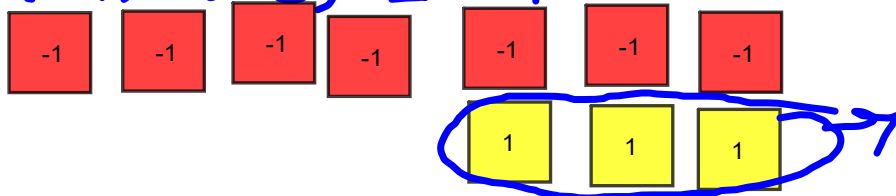


Homework Solutions

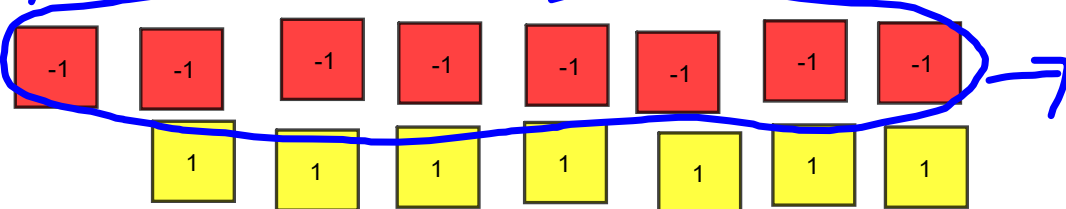
b) $(-3) - (+5) = -8$



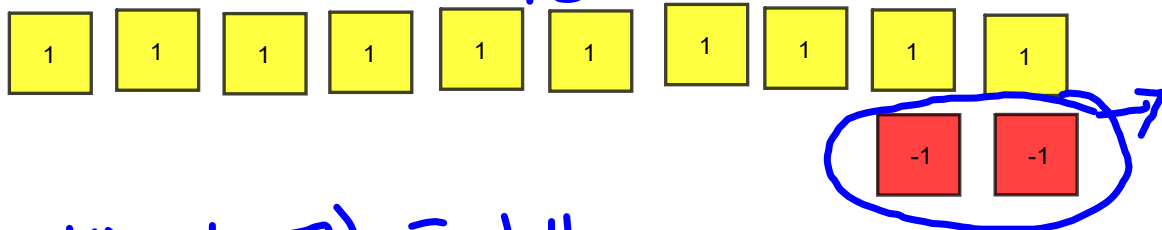
c) $(-4) - (+3) = -7$



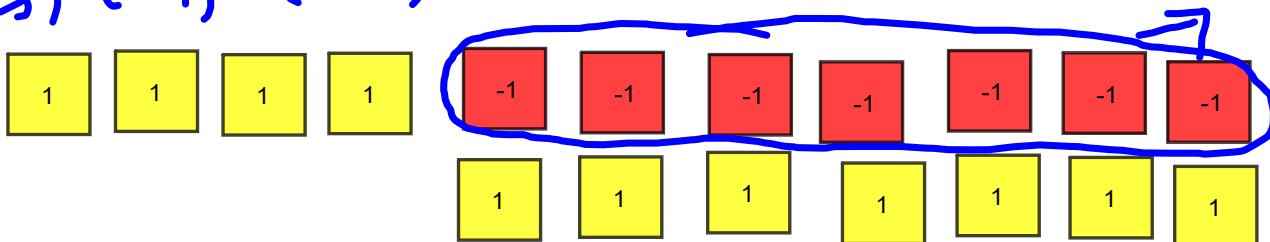
d) $(-1) - (-8) = +7$



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



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



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

pg. 69

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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:

$\begin{aligned} (+9) - (-2) \\ (+9) + (+2) = +11 \end{aligned}$	$\begin{aligned} (-15) - (+5) \\ (-15) + (-5) = -20 \end{aligned}$ <p style="text-align: center; color: green; font-size: small;">same</p>	$\begin{aligned} (+12) - (+16) \\ (+12) + (-16) = -4 \end{aligned}$
$\begin{aligned} (+7) - (-5) \\ (+7) + (+5) = +12 \end{aligned}$	$\begin{aligned} (-2) - (-9) \\ (-2) + (+9) = +7 \end{aligned}$	$\begin{aligned} (-10) - (-8) \\ (-10) + (+8) = -2 \end{aligned}$

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

Try some

$\begin{aligned} (a) \quad (-6) - (+3) \\ (-6) + (-3) = (-9) \end{aligned}$	$(b) \quad (+7) - (-5) \\ (+7) + (+5) = (+12)$
$(c) \quad (+10) - (+12) \\ (+10) + (-12) = (-2)$	$(d) \quad (-3) - (-8) \\ (-3) + (+8) = (+5)$
$(e) \quad (+3) - (+10) \\ (+3) + (-10) = (-7)$	$(f) \quad (-12) - (-3) \\ (-12) + (+3) = (-9)$
$(g) \quad (+7) - (-6) \\ (+7) + (+6) = (+13)$	$(h) \quad (+20) - (+15) \\ (+20) + (-15) = (+5)$

Try some

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

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

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

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

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

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

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

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

Test Oct. 4

Rule

add opposite

$$\begin{array}{r} 4a) \quad (+4) \quad (-7) \\ \quad \quad \quad \downarrow \\ (+4) \quad + \quad (+7) \\ = \quad (+11) \end{array}$$

Homework pg. 69 # 4, 5, 7, 10,12
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).

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

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

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

$$-1$$

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

$$+1$$

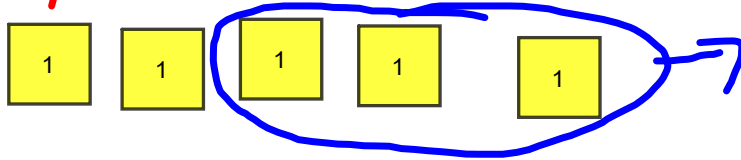
$$b) (+3) - \square = -1$$

$$+4$$

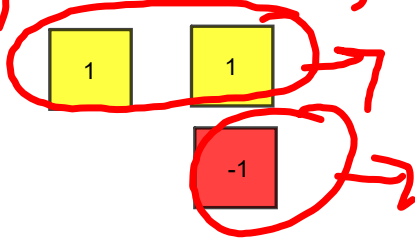
$$c) \square - (+1) = +4$$

$$+5$$

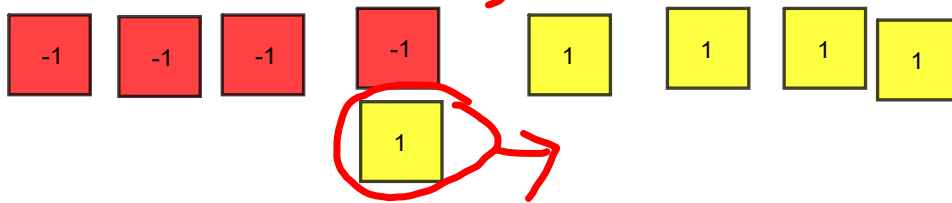
B a) $(+4) + (+1) - (+3) = +2$



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