

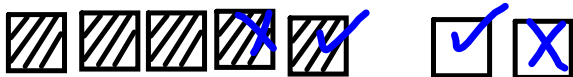


Warm Up Grade 7

Unit 2: Integers day 5

Quiz After warm up

1) Represent the following as addition and find the sum:



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



2) Represent the following as addition and find the sum:

a) The temperature is -30°C at noon and rises by 12°C by supper time. What is the temp at supper time?

$$(-30) + (+12) = (-18)$$



The temp at supertime is -18°C .



Unit 2: Integers day 5

1) Represent the following as addition and find the sum:



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

2) Represent the following as addition and find the sum:

a) The temperature is -30°C at noon and rises by 12°C by supper time. What is the temp at supper time?

$$(-30) + (+12) = -18$$

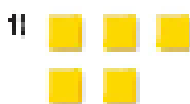
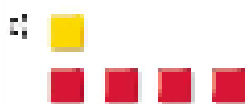
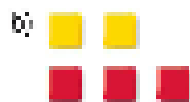
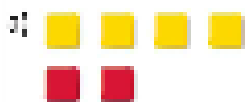
temperature at suppertime is -18°C

Homework solutions

Use coloured tiles.

1. What sum does each set of tiles model?

Write the addition equation.



2. What sum does each set of tiles model?

How do you know you are correct?

- a) 3 yellow tiles and 2 red tiles
- b) 3 yellow tiles and 4 red tiles
- c) 2 red tiles and 2 yellow tiles

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

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

c) $(-4) + (-2) = -6$

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

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

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

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

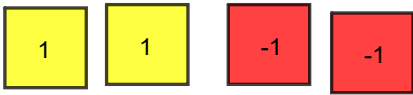
b) $(+3) + (-4) = -1$

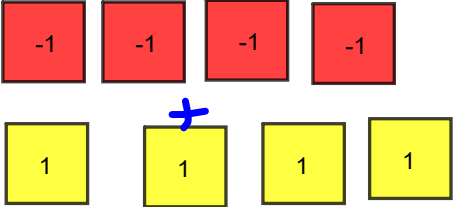
c) $(-2) + (+2) = 0$

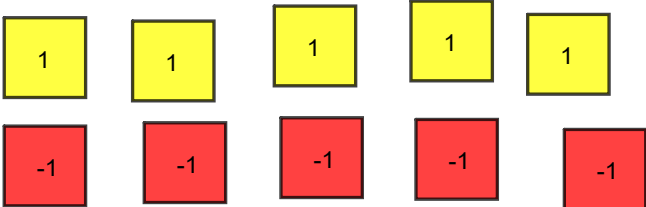
3. Use coloured tiles to represent each sum. Find each sum. Sketch the tiles you used. What do you notice?

Homework solutions

- a) $(+2) + (-2)$ b) $(-4) + (+4)$ c) $(+5) + (-5)$


a)  = 0

b)  = 0


c)  = 0

4. Add. Sketch coloured tiles to show how you did it.

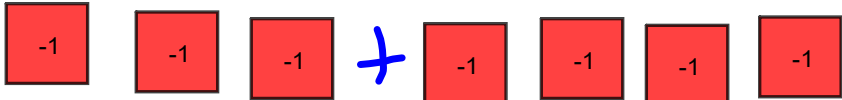
- a) $(+2) + (+3)$ b) $(-3) + (+4)$ c) $(-4) + (-1)$
 d) $(+1) + (-1)$ e) $(-3) + (-4)$ f) $(+5) + (-2)$


a)  = +5

b)  = +1 

c)  = -5

d)  = 0

e)  = -7

f)  = +3

Homework solutions

5. Add. Write the addition equations.

a) $(+4) + (+3)$

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

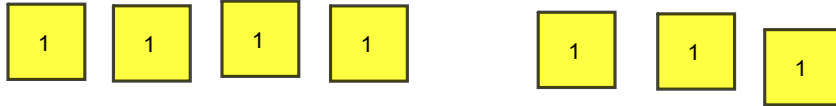
c) $(-4) + (-5)$

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

e) $(-10) + (-6)$

f) $(+4) + (-13)$

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



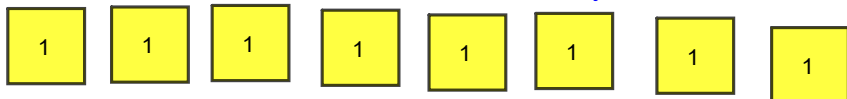
b) $(-7) + (+5) = -2$



c) $(-4) + (-5) = -9$



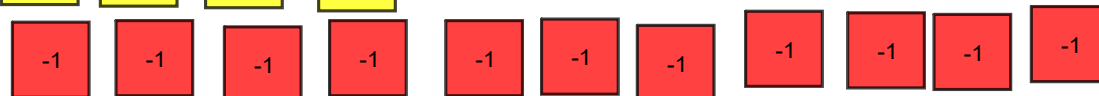
d) $(+8) + (-1) = +7$



e) $(-10) + (-6) = -16$



f) $(+4) + (-13) = -9$



Homework solutions

6. Represent each sentence with integers, then find each sum.

a) The temperature drops 3°C and rises 4°C .

b) Marie earned $\$5$ and spent $\$3$.

c) A stock rises 15¢ , then falls 7¢ .

d) Jerome moves his game piece 3 squares backward, then 8 squares forward.

e) Duma deposits $\$12$, then withdraws $\$5$.

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

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

c) $(+15) + (-7) = +8$

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

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

Homework solutions

8. Copy and complete.

a) $(+5) + \square = +8$

b) $\square + (-3) = -4$

c) $(+3) + \square = +1$

d) $(-5) + \square = -3$

e) $(+2) + \square = +1$

f) $\square + (-6) = 0$

9. **Assessment Focus**

a) Add: $(+3) + (-7)$

b) Suppose you add the integers in the opposite order:

$(-7) + (+3)$. Does the sum change?

1

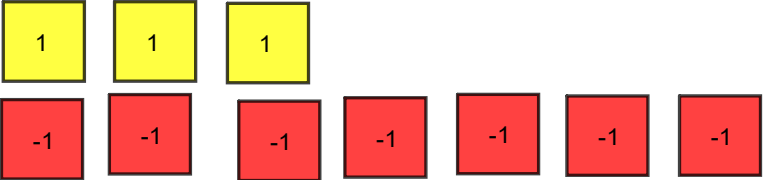
Use coloured tile drawings and words to explain the result.

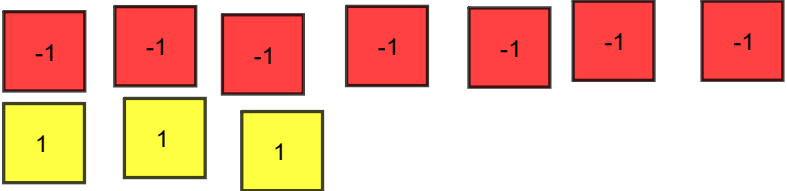
c) How is $(-3) + (+7)$ different from $(+3) + (-7)$? Explain.

-1

d) Repeat parts a to c with a sum of integers of your choice.

What do you notice?

a)  $= -4$

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

Homework solutions

10. Take It Further Add. Sketch coloured tiles to show how you did it.

a) $(+1) + (+2) + (+3)$

b) $(+2) + (-1) + (+3)$

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

d) $(+4) + (-3) + (+1)$

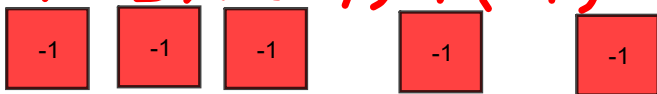
a) $(+1) + (+2) + (+3) = +6$



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



c) $(-3) + (-1) + (-1) = -5$



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



Solutions

Master

Extra Practice 1

Lesson 2.1: Representing Integers

1. Write the integer modelled by each set of tiles.

a) $\boxed{R} \boxed{R} \boxed{R} \boxed{R}$ -4 b) $\boxed{Y} \boxed{Y} \boxed{Y} \boxed{Y} \boxed{Y} \boxed{Y}$ $+6$

c) $\boxed{Y} \boxed{Y} \boxed{Y} \boxed{Y}$ $+1$
 $\boxed{R} \boxed{R} \boxed{R}$

d) $\boxed{Y} \boxed{Y} \boxed{Y}$ -5
 $\boxed{R} \boxed{R} \boxed{R} \boxed{R} \boxed{R} \boxed{R} \boxed{R} \boxed{R}$

e) $\boxed{Y} \boxed{Y} \boxed{Y} \boxed{Y}$ 0
 $\boxed{R} \boxed{R} \boxed{R} \boxed{R}$

f) $\boxed{Y} \boxed{Y} \boxed{Y} \boxed{Y} \boxed{Y}$ $+3$
 $\boxed{R} \boxed{R}$

2. Use coloured tiles. Draw two different models for each integer.

a) -7

b) $+8$

c) -2

d) $+6$

3. Which integer is modelled by each set of tiles?

a) 5 yellow tiles and 13 red tiles -8 b) 28 yellow tiles and 24 red tiles $+2$

c) 15 yellow tiles and 8 red tiles $+7$ d) 37 yellow tiles and 41 red tiles

4. a) You have 3 yellow tiles and want to model -4 .
 How many red tiles do you need? a) yyy need 7 red to model -4
 $r r r r r r r r$

b) You have 6 red tiles and want to model $+7$.
 How many yellow tiles do you need?

c) You have 5 yellow tiles and want to model $+2$.
 How many red tiles do you need?

d) You have 8 red tiles and want to model -5 .
 How many yellow tiles do you need?

Yellow = shaded (+)

Red = unshaded (-)

b) $rrrrrrr$
 $y y yyyyyyyyyyy$
 Need 13 yellow to model +7

c) $yyy yy$
 $r r r r r r r r$
 need 6 red to model +2

d) $rrrr rrrr r$
 $y yy$
 need 3 yellow to model -5

Master

Extra Practice 2

Lesson 2.2: Adding Integers with Tiles

Use coloured tiles.

1. Find each sum.

a) $(+6) + (-12)$ **-6**



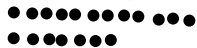
b) $(-10) + (-4)$ **-14**



c) $(-8) + (-9)$ **-17**



d) $(+11) + (+7)$ **+18**



e) $(-13) + (+5)$ **-8**



f) $(+12) + (-6)$ **+6**



2. Represent each sentence with integers, then find each sum.

What does the sum represent?

a) The elevation of the base of the building is 345 m above sea level. The building is 50 m high. **$(+345) + (+50) = (+395)$**

b) The elevation of the base of the building is 75 m below sea level. The building is 15 m high. **$(-75) + (+15) = (-60)$**

c) The elevation of the top of the trench is 237 m below sea level. The trench is 10 m deep.

d) The elevation of the entrance to the mine is 1500 m above sea level. The mine is 450 m deep.

3. These are the scores on each hole of mini-golf. Find the total score.

Score	-2	+1	0	+3	-1	+2	-1	0	-2
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4. Complete each magic square.

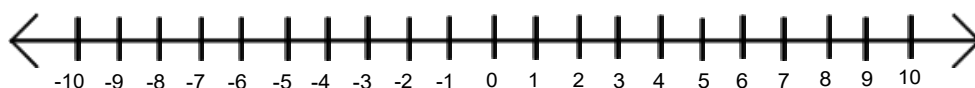
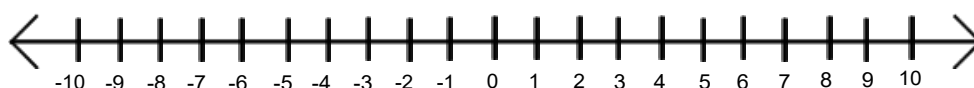
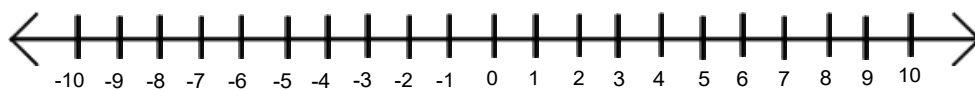
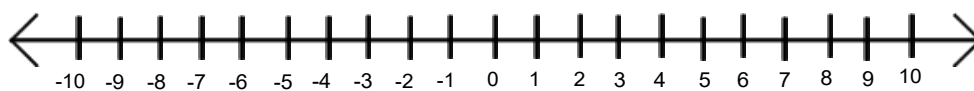
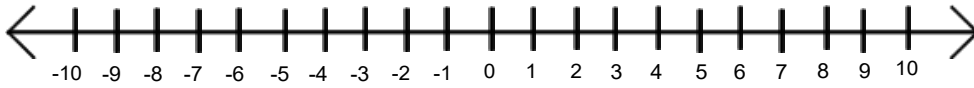
a)

		+3
	+2	
+1		-1

b)

-7			+8
	+6	-5	-3
	-1	+2	
	+3		+1

Pass sheet out to students

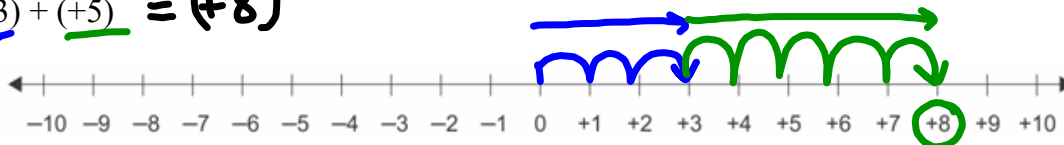


Modelling Integer Addition using Number Lines

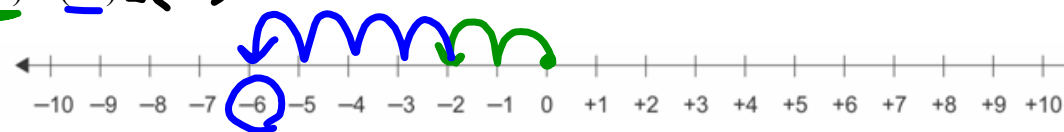
We have modelled integer addition using algebra tiles, now we will add using number lines. Remember with number lines positive is to the right and negative is to the left.

Always start at zero

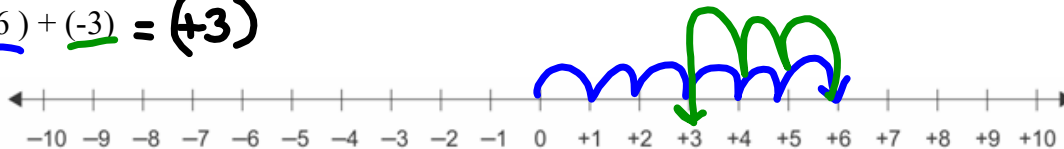
(a) $(+3) + (+5) = (+8)$



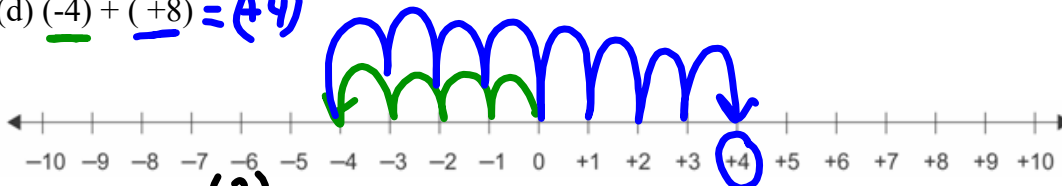
(b) $(-2) + (-4) = (-6)$



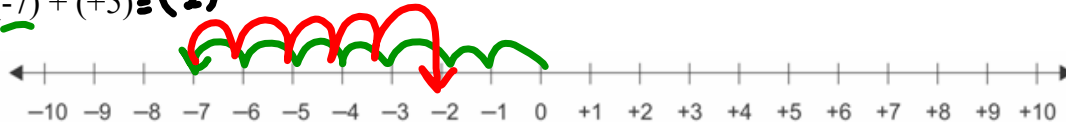
(c) $(+6) + (-3) = (+3)$



(d) $(-4) + (+8) = (+4)$



(e) $(-7) + (+5) = (-2)$

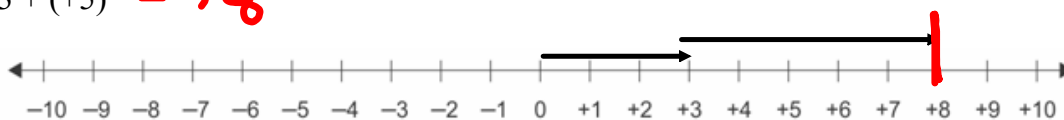


Modelling Integer Addition using Number Lines

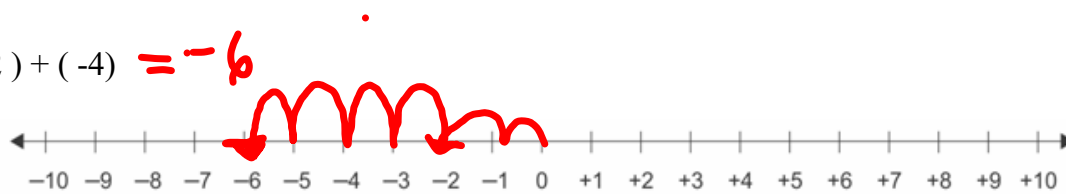
SOLUTIONS

We have modelled integer addition using algebra tiles, now we will add using number lines. Remember with number lines positive is to the right and negative is to the left.

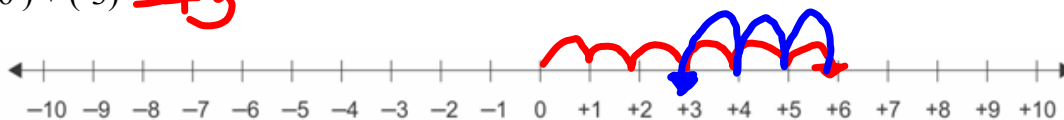
(a) $(+3) + (+5) = +8$



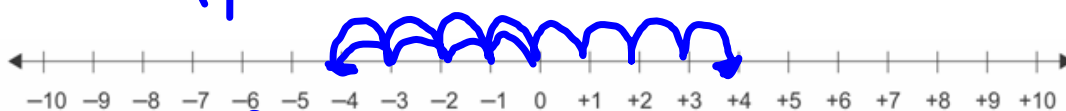
(b) $(-2) + (-4) = -6$



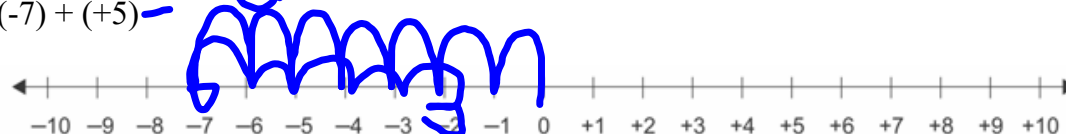
(c) $(+6) + (-3) = +3$



(d) $(-4) + (+8) = +4$



(e) $(-7) + (+5) = -2$



Class/Homework

pg. 62

2a) $(+4) + (+2)$

3a) $(+2) + (+4)$

3a) 3b) $(-4) + (-2)$

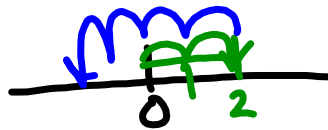
1(a,c,e,g),

2(a,b,c),

#3(a & b but just repeat it for 2b and 2c)

#4 (a,b,c)

#5



4)

full 4

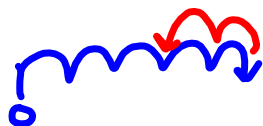
+2

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

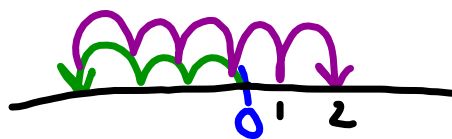
Try to figure out rules.

Have to draw number lines for #1,2. For the rest you have addition equations but don't have to draw number li

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



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



Same

Modelling Integer Addition using Number Lines

We have modelled integer addition using algebra tiles, now we will add using number lines. Remember with number lines positive is to the right and negative is to the left.

(a) $(+3) + (+5)$



(b) $(-2) + (-4)$



(c) $(+6) + (-3)$



(d) $(-4) + (+8)$

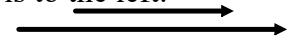


(e) $(-7) + (+5)$



Modelling Integer Addition using Number Lines

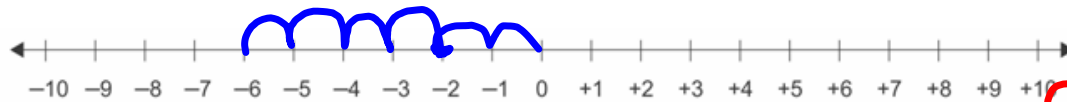
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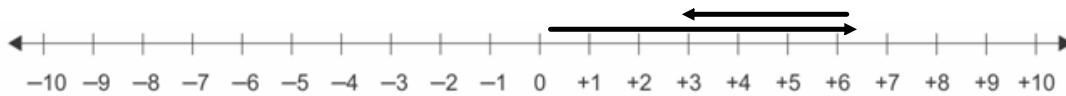
(a) $(+3) + (+5)$



(b) $(-2) + (-4) = -6$



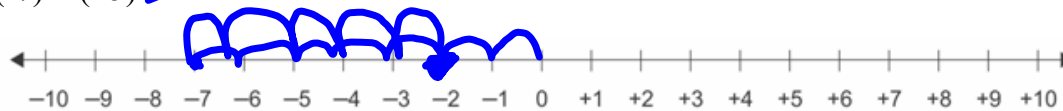
(c) $(+6) + (-3) = +3$



(d) $(-4) + (+8) = +4$



(e) $(-7) + (+5) = -2$



3. Use coloured tiles to represent each sum. Find each sum.

Sketch the tiles you used. What do you notice?

a) $(+2) + (-2)$ b) $(-4) + (+4)$ c) $(+5) + (-5)$

4. Add. Sketch coloured tiles to show how you did it.

a) $(+2) + (+3)$ b) $(-3) + (+4)$ c) $(-4) + (-1)$
 d) $(+1) + (-1)$ e) $(-3) + (-4)$ f) $(+5) + (-2)$



5. Add. Write the addition equations.

a) $(+4) + (+3)$ b) $(-7) + (+5)$ c) $(-4) + (-5)$
 d) $(+8) + (-1)$ e) $(-10) + (-6)$ f) $(+4) + (-13)$

6. Represent each sentence with integers, then find each sum.

- a) The temperature drops 3°C and rises 4°C .
 b) Marie earned $\$5$ and spent $\$3$.
 c) A stock rises 15% , then falls 7% .
 d) Jerome moves his game piece 3 squares backward, then 8 squares forward.
 e) Duma deposits $\$12$, then withdraws $\$5$.

7. Use question 6 as a model.

Write 3 integer addition problems.

Trade problems with a classmate.

Solve your classmate's problems with coloured tiles.

8. Copy and complete.

a) $(+3) + \square = +8$

b) $\square + (-3) = -4$

c) $(+3) + \square = +1$

d) $(-5) + \square = -3$

e) $(+2) + \square = +1$

f) $\square + (-6) = 0$

9. **Assessment Focus**

a) Add: $(+3) + (-7)$

b) Suppose you add the integers in the opposite order:

$(-7) + (+3)$. Does the sum change?

Use coloured tile drawings and words to explain the result.

c) How is $(-3) + (+7)$ different from $(+3) + (-7)$? Explain.

d) Repeat parts a to c with a sum of integers of your choice.

What do you notice?

10. **Take It Further** Add. Sketch coloured tiles to show how you did it.

a) $(+1) + (+2) + (+3)$

b) $(+2) + (-1) + (+3)$

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

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

d) $(+4) + (-3) + (+1)$