

Integers

Adding

Same Sign

→ () + ()

↑ ↑

If signs are the same, then add # part
Keep same sign

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

↑ ↑
Same
so add
4+2
Keep sign

Ex 2) $(+3) + (+4) = (+7)$

Subtracting

Different Signs

→ (+) + (-)

↑ ↓
diff

If signs are different, then cover sign and find difference between #'s. (Big - small)
Keep sign on larger # part.

Ex) $(-10) + (+3) = (-7)$

↑ ↓
diff
(10-3=7) keep sign on larger # part
= 10.

Subtraction

→ Add the opposite then follow adding rules

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

↓ ↓
(-7) + (-4) Now use adding rules

↑ ↑
same

= (-11)

() - ()

↓ ↓
add opp

Modelling

Shade is positive

Adding Tiles -->

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

Top Bottom

Unshaded is Negative

see if any zero pairs form

Number lines --> Start at zero and use (-) to jump left and (+) to jump right

0 (+1) +2 +3 +4

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

right 4 Back 3 Where you stop

Subtraction- only with tiles

Model first integer and ask if you can remove the second integer

if YES then circle and remove and record what is left

$(-7) - (-2)$

= 5 green circles

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

if NO then need to add zero pairs, then remove the second integer

$(+6) - (-2)$

= 8 green circles

$(+6) - (-2) = (+8)$

Homework

Solutions

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4, #5, #8(a,b), #11(a,b), #12(a,b,c,d,e,f)

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

$$b) (-5) - (+4) \\ (-5) + (-4) = -9$$

$$c) (-2) - (-3) \\ (-2) + (+3) = +1$$

$$d) (+4) - (-2) \\ (+4) + (+2) = +6$$

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

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

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

$$b) (-15) - (-8) \\ (-15) + (+8) = -7$$

$$c) (-4) - (+9) \\ (-4) + (-9) = -13$$

$$6a) (+2) - (-6) \\ (+2) + (+6) = +8$$

means 8
more shots

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

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

means 9 fewer
shots.

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4, #5, #8(a,b), #11(a,b), #12(a,b,c,d,e,f)

Homework

Solutions

7a) (April) - (January)

$$\begin{aligned} \text{i) Cal: } & (+13) - (-4) \\ & (+13) + (+4) \\ & +17 \end{aligned}$$

$$\begin{aligned} \text{ii) Iqaluit: } & (-10) - (-22) \\ & (-10) + (+22) \\ & +12 \end{aligned}$$

$$\begin{aligned} \text{i) TO: } & (+12) - (-3) \\ & (+12) + (+3) \\ & +15 \end{aligned}$$

$$\begin{aligned} \text{iv) Vic: } & (+13) - (+7) \\ & (+13) + (-7) \\ & +6 \end{aligned}$$

b) Calgary has the greatest change since it has the largest difference

$$\begin{aligned} \text{8a) } & (-6) - (+11) \\ & (-6) + (-11) \\ & = -17 \end{aligned}$$

$$\begin{aligned} \text{8b) } & (+11) - (-6) \\ & (+11) + (+6) \\ & = +17 \end{aligned}$$

$$\begin{aligned} \text{12) a) } & (+4) - (+2) - (+1) \\ & (+4) + (-2) + (-1) \\ & \underbrace{(+4) + (-2)}_{+2} + (-1) \\ & = +1 \end{aligned}$$

$$\begin{aligned} \text{12) b) } & (-2) - (+1) - (-4) \\ & (-2) + (-1) + (+4) \\ & \underbrace{(-2) + (-1)}_{-3} + (+4) \\ & = +1 \end{aligned}$$

$$\begin{aligned} \text{12c) } & (-1) - (+2) - (+1) \\ & = (-1) + (-2) + (-1) \\ & = (-3) + (-1) \\ & = -4 \end{aligned}$$

$$\begin{aligned} \text{12d) } & (+5) - (+1) + (-2) \\ & = (+5) + (-1) + (-2) \\ & = (+4) + (-2) \\ & = +6 \end{aligned}$$

$$\begin{aligned} \text{12e) } & (+10) - (+3) - (-5) \\ & = (+10) + (-3) + (+5) \\ & = (+7) + (+5) \\ & = +12 \end{aligned}$$

$$\begin{aligned} \text{12f) } & (-7) - (+1) + (-3) \\ & = (-7) + (-1) + (-3) \\ & = (-8) + (-3) \\ & = +11 \end{aligned}$$

$$8. \begin{array}{l} (-6) - (+11) \\ (-6) + (-11) = -17 \end{array}$$

$$\begin{array}{l} (+11) - (-6) \\ (+11) + (+6) = +17 \end{array}$$

The answers are opposite integers.

9. +4 as a difference of 2 integers

$$(+8) - (+4) \quad (+6) - (+2)$$

$$(-1) - (-5) \quad (0) - (-4)$$

$$(-4) - (-8) \quad (-10) - (-14)$$

$$10. \begin{array}{l} (+6) - (+5) = +1 \\ (+5) - (+5) = 0 \\ (+4) - (+5) = -1 \\ (+3) - (+5) = -2 \\ (+2) - (+5) = -3 \end{array}$$

$$b) \begin{array}{l} (+7) - (+4) = +3 \\ (+7) - (+3) = +4 \\ (+7) - (+2) = +5 \\ (+7) - (+1) = +6 \\ (+7) - (0) = +7 \\ (+7) - (-1) = +8 \\ (+7) - (-2) = +9 \\ (+7) - (-3) = +10 \end{array}$$

$$11. a) +6, +2, -2, \underline{-6}, \underline{-10}, \underline{-14}, \underline{-18}$$

subtract +4,

$$b) -3, \underline{-1}, +1, +3, +5, +7, +9$$

add +2 each time

$$c) +5, +12, +19, \underline{+26}, \underline{+33}, \underline{+40}, \underline{+47}$$

add 7 each time

$$d) +1, 0, -1, \underline{-2}, \underline{-3}, \underline{-4}, \underline{-5}$$

subtract 1

$$12 a) (+4) - (+2) - (+1) = +1$$

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

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

$$c) (-1) - (-2) - (+1)$$

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

$$d) (+5) - (+1) + (-2) = +2$$

$$e) (+10) - (+3) - (-5)$$

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

$$f) (-7) - (+1) + (-3)$$

$$(-7) + (-1) + (-3) = -11$$

Homework Sheet 4.3 # 1-25

Sheet 4.4 # 1-34

Sheet 4.5 #1-16

(Even numbers only)

Day 2 of Review

Class/Homework

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1(a,c),

#2(a,b,c,d,e),

#3(a,b,c,d), Use Tiles or Write out $()+()=$ __

#4(a,b,c,d), Write out $()+()=$ __

#5(a,b), Write out $()+()=$ __

#6, Write out $()+()=$ __

#7(a,b), Write out $()+()=$ __

#8(a,b,c,d) USE TILES

Test oct. 4

Red \Rightarrow

Yellow \Rightarrow

$(-)$

$(+)$ shaded

unshaded

No
tiles

$$1c) (-17) + (+37) = (+20)$$

hole 17

Need 17

to become zero

I want +20

I need 20 more