

Warm Up Grade 8



1) Evaluate. Show all steps

a)
$$\frac{(-6)(+7) + (4)(-3)}{(-3)(-2)} \leftarrow \begin{matrix} \text{Top} \\ \text{Bott} \end{matrix} \div$$

Top

$$\begin{aligned} & (-6) \times (+7) + (4) \times (-3) \\ & \quad \underline{(-42)} + \underline{(-12)} \\ & \quad \quad \underline{(-54)} \end{aligned}$$

Bott $(-3) \times (-2) = (+6)$

Top \div Bott

$$(-54) \div (+6) = \boxed{-9}$$

b) $7[2 + (-10)] - 5(2)$

$$\begin{aligned} & 7 \underline{(-8)} - 5 \underline{(2)} \\ & \underline{(-56)} - \underline{(+10)} \\ & \quad \quad \downarrow \quad \downarrow \\ & \quad \quad \underline{(-56)} + \underline{(-10)} \\ & \quad \quad \quad \underline{\boxed{-66}} \end{aligned}$$

3) Fill in the next 3 term. Write the pattern (Where does it start and how do you get the term)

-2, +10, -50, +250, -1250, +6250

$\times (-5)$

Multiply by (-5)

2 numbers \rightarrow Positive \rightarrow multiply

2) With the following set of integers, which pair has the greatest product?

+3, -9, -7, +6

$$(-9) \times (-7) = \boxed{+63}$$

$$\begin{aligned} & (-) \times (-) \\ & \text{or} \\ & (+) \times (+) \end{aligned}$$

More Practice

Test is very similar warm ups

of \Rightarrow

1) Model $(-7) \times (+3)$ using tiles = (-21)

2) Find the quotient a) $(-20) \div (-5)$ b) $(+72) \div (-8)$

$(+4)$ (-9)

3) Evaluate $\frac{4(-7) - (-2)}{(-3)(-4)}$ $\rightarrow (+12)$ $\frac{-26}{+12} = \frac{-13}{6}$

$= -2\frac{1}{6}$

Top $4(-7) - (-2)$

$(-28) - (-2)$

$(-28) + (+2)$

(-26)

4) If Karen and Jim are playing golf and Karen has 5 holes of 1 under par and 3 holes with 2 above par and 1 hole with 2 under par. Jim's score is 4 holes 1 under par and 3 holes with 3 above par and 2 holes with 3 under par. Find each score. Who's is better?

Karen

$5(-1) + 3(+2) + 1(-2)$

$(-5) + (+6) + (-2)$

$(+1) + (-2)$

(-1)

1 under par

Jim

$4 \times (-1) + 3(+3) + 2(-3)$

$(-4) + (+9) + (-6)$

$(+5) + (-6)$

(-1)

1 under par

Same

$$\frac{2 + [4 \times (-2 \times 3) - 10]}{3 + 2(10) \div 4}$$

$$3 + 2(10) \div 4$$

Bottom

$$3 + 2(10) \div 4$$

$$3 + 20 \div 4$$

$$3 + 5$$

$$(+8)$$

Top \div Bott

$$(-32) \div (+8)$$

$$\boxed{-4}$$

Top

$$2 + [4 \times (-2 \times 3) - 10]$$

$$2 + [4 \times (-6) - 10]$$

$$2 + [(-24) - (10)]$$

$$2 + [(-24) + (-10)]$$

$$2 + (-34)$$

$$\boxed{-32}$$

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$$1. (+2) \times (-1)$$

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

-1

-1

$$b) (+2) \times (+9)$$

$$(+9) + (+9) = +18$$

1	1	1	1	1	1	1	1	1
---	---	---	---	---	---	---	---	---

1	1	1	1	1	1	1	1	1
---	---	---	---	---	---	---	---	---

$$c) (+3) \times (-3)$$

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

-1	-1	-1
----	----	----

-1	-1	-1
----	----	----

-1	-1	-1
----	----	----

$$d) (+3) \times (+7)$$

$$(+7) + (+7) + (+7)$$

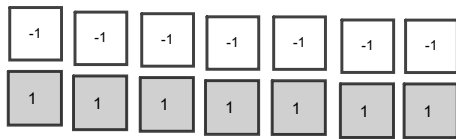
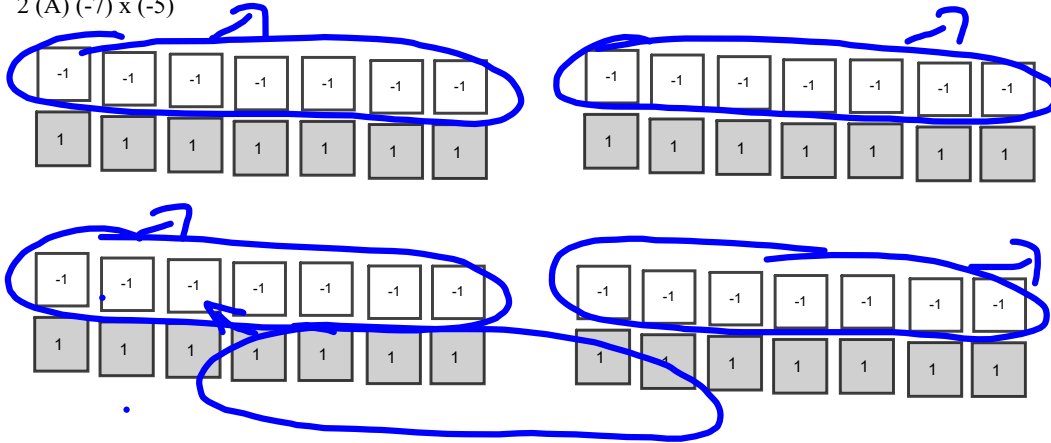
1	1	1	1	1	1	1
---	---	---	---	---	---	---

1	1	1	1	1	1	1
---	---	---	---	---	---	---

1	1	1	1	1	1	1
---	---	---	---	---	---	---

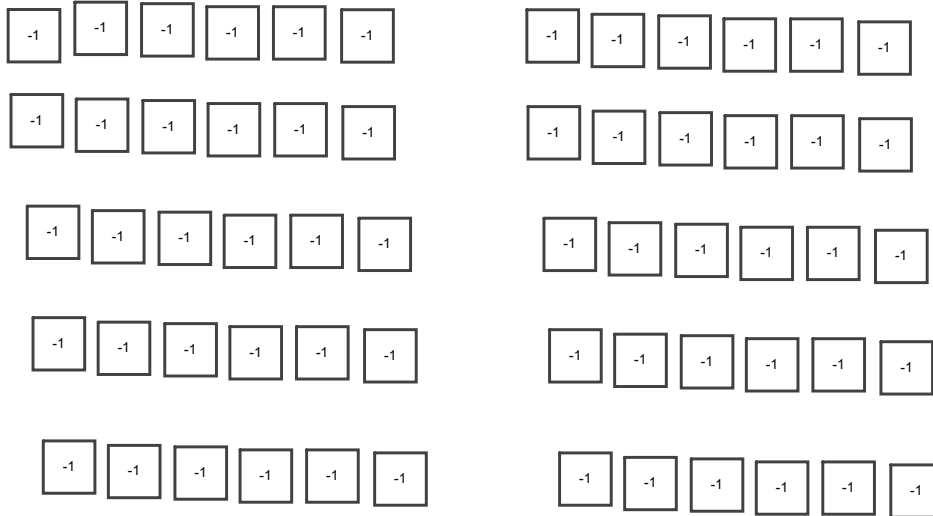
2. $(-7) \times (-5)$

2 (A) $(-7) \times (-5)$

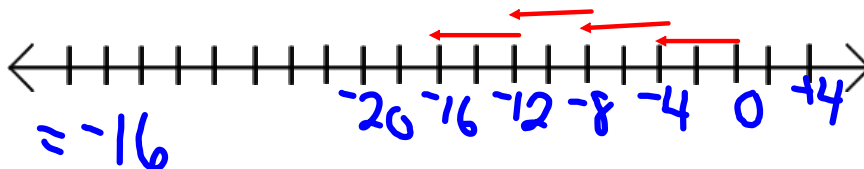


Take away 5 groups of -7

b) $(+10) \times (-6)$
10 groups of -6



c) $-4 \times (+4)$



d) $(+6) \times (+8)$
8 groups of 6 positives
 $= +48$

3. 4 hours \rightarrow 8 half hours

$$\text{Temp change} \rightarrow 8 \times (-2) \\ -16$$

$$\text{Temp after 4 hours} \quad +6 + (-16) \\ -10$$

4. a) $(+25) \times (-31)$
neg

b) $(-13) \times (-15)$
pos.

c) $(-11) \times (+12)$
neg

d) $(+9) \times (+13)$
pos

5. a) $(+9) \times (-7)$
 -63

b) $(+4) \times (+7)$
 $+28$

20	40x20
2	2x40

c) $(-11) \times (+13)$

10	10	1
10x10	10x1	
10	10	
3x10	3x1	
30	3	

$11 \times 12 = 132$
so $11 \times 13 = 143$
 -143

d) $(-40) \times (-22)$

$4 \times 22 = 88$
 $40 \times 22 = 880$
 $+880$

e) $(-1) \times (+17)$
 -17

f) -37×0
 0

$$\begin{aligned} & (-32) \times (+15) \\ & \overset{\text{Ignore sign}}{[-30 + (-2)]} \times (+10 + (+5)) \\ & [(-30) \times (+10)] + (-30) \times (+5) + (-2) \times (+10) + (-2) \times (+5) \end{aligned}$$

$$\begin{aligned} & (-32) \times (+15) \\ & \text{Ignore sign} \\ & = (10 \times 30) + (10 \times 2) + (5 \times 30) + (2 \times 5) \\ & = 300 + 20 + 150 + 10 \\ & = 480 \end{aligned}$$

	30	2
10	$10 \times 30 = 300$	$10 \times 2 = 20$
5	$5 \times 30 = 150$	$2 \times 5 = 10$

$$(-32) \times (15) = -480$$

$$6. a) (-12) \times \underline{\quad} = +72$$

-6

$$b) \underline{\quad} \times (+8) = +80$$

+10

$$c) +7 \times \underline{\quad} = 0$$

0

$$d) \underline{\quad} \times (-4) = -60$$

+15

$$7. a) (-55) \times 6$$

$$55 \times 6$$

$$50 \times 6 = 300$$

$$5 \times 6 = 30$$

$$55 \times 6 = 330$$

-330 ml of water

$$8) (+5) \times (-7)$$

I have 5 friends that I owe \$7 each to.
How much do I owe?

Review for Test

Be able to multiply and divide integers, using;

- models (Tiles)
- number lines (only multiplication on test tomorrow)
- rules for multiplying and dividing

Be able to add and subtract integers using rules

Be able to recognize using models and number lines to add and subtract integers.

Be able to apply the rules for adding, subtracting, multiplying and dividing integers with order of operations. (BEDMAS)

10 MC

7 Short Response

*Model multiplication with tiles

*Similar to yesterday's warmup (find the pattern, what two number produce largest product or smallest product)

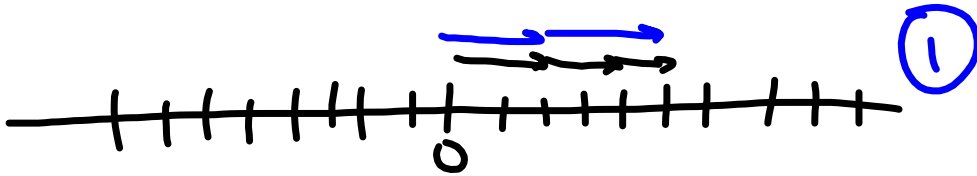
*similar to today's warmp (Especially word problem)

*Multiply using distributive property Ex) $(-21) \times (+15)$ No calculators

* Evaluate multiplication and division

*BEDMAS

$$(+2) \times (+3) = \underline{+6} \text{ (1)}$$



Class/Homework

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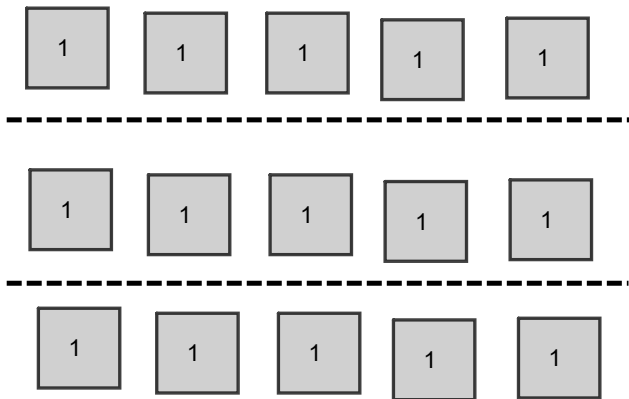
answer ÷
#9(a,c...no tiles), #11a, #13a, *ab* #16, *↑ 19abcd* #20, #21, #22, #23

Oct. 7 test

Test tomorrow???

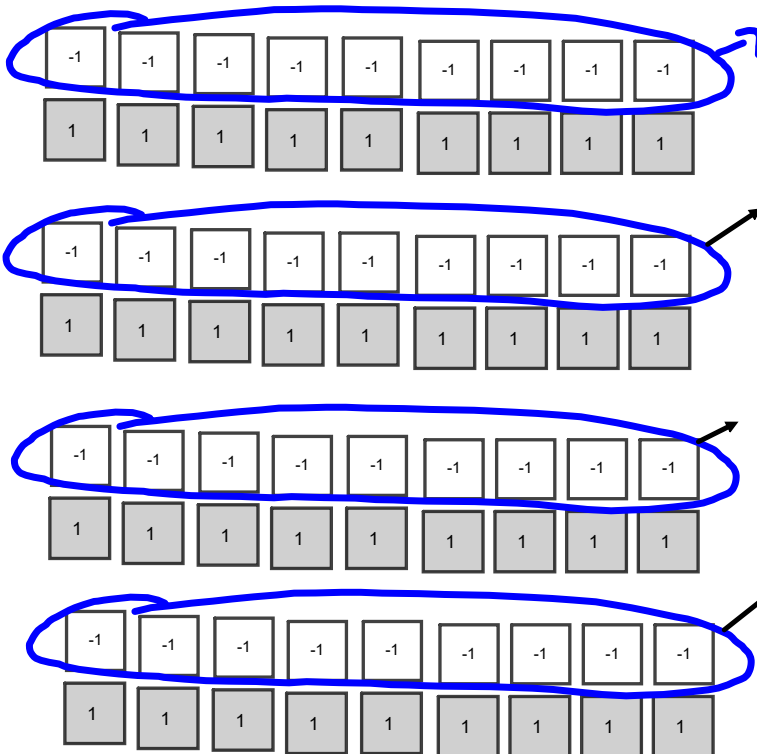
All solutions to tonight's homework will be posted on line in this VERY lesson

9. $(+15) \div (+3)$



9 (b) $(+36) \div (-9)$

rewrite $(\underline{\quad}) \times (-9) = (+36)$



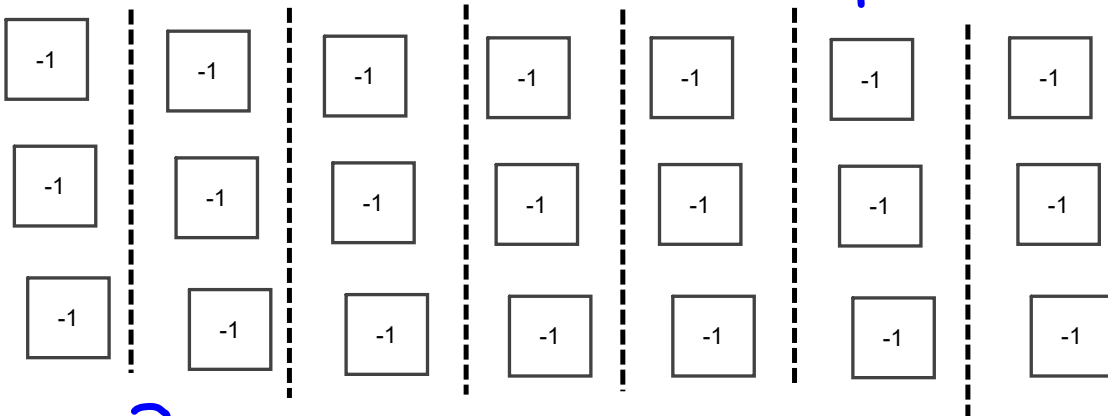
Take away
4 groups of -9

$+36 \div (-9) = -4$



$$a) (-21) \div (+7)$$

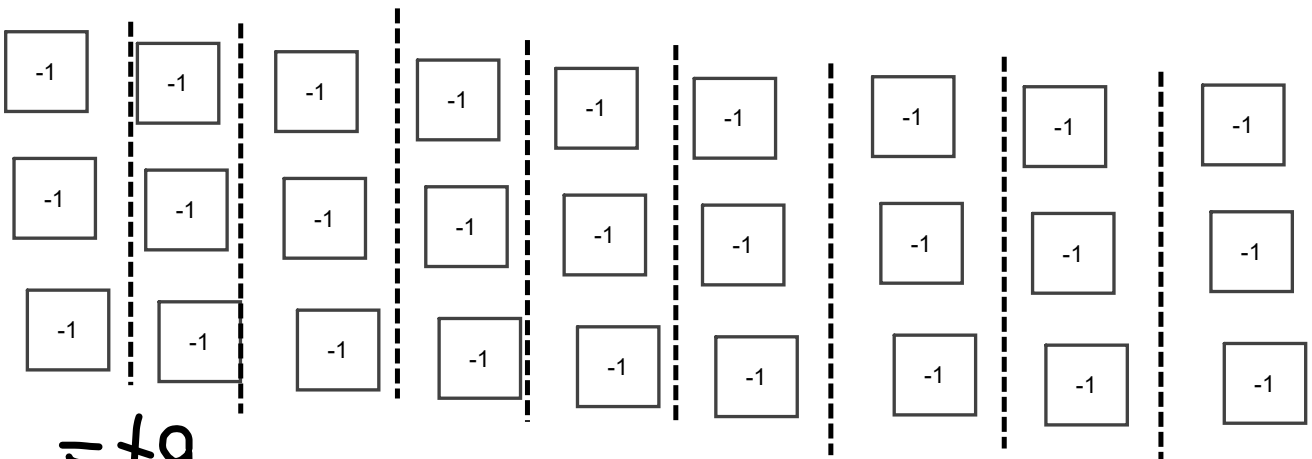
Divide -21 into 7 groups



$$= -3$$

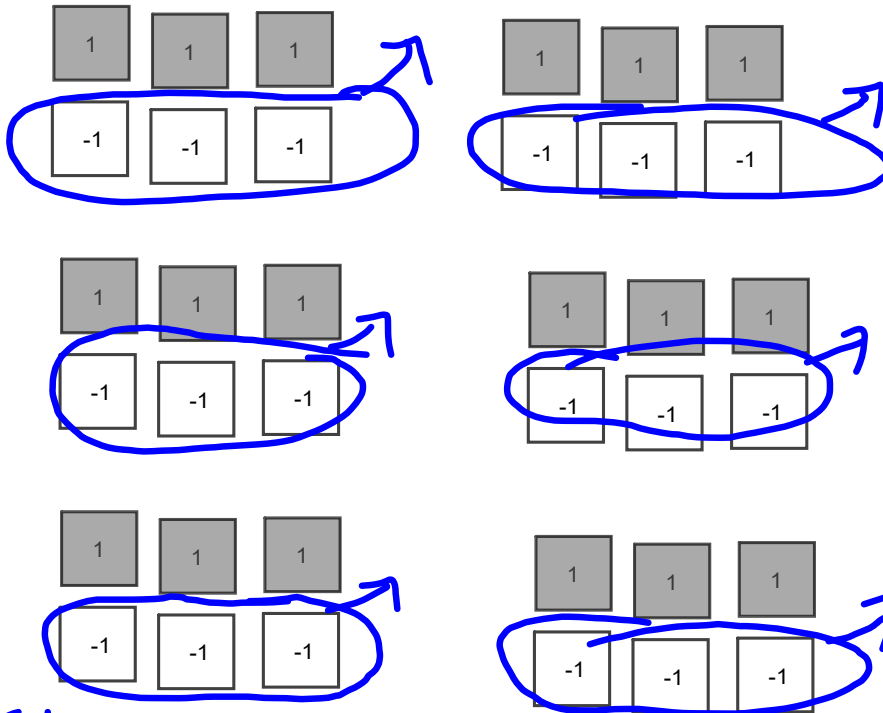
$$d) (-27) \div (-3)$$

-27 divided into groups of -3



$$= +9$$

$$10. a) (+18) \div (-3)$$



Take away 6 groups of -3
(-6)

$$18 \div (-3) = -6$$

$$b) (+14) \div (+2) = +7$$

Divide 14 into 2 groups of +7

$$c) (-28) \div (+4)$$

Divide 28 negatives into 4 equal groups. Each group will have -7

$$d) (-30) \div (-6)$$

Divide -30 into 5 groups of -6

$$-30 \div (-6) = +5$$

$$11. (-65) \div (-5) = +13$$

In 13 weeks Tyler will have
withdraw \$65

b) withdraw is a neg.

$$12 a) (+26) \div (-2) = -13$$

$$b) (-32) \div (-8) = +4$$

$$c) (-1) \div (+1) = -1$$

$$d) (+42) \div (+7) = +6$$

Explain
how to
divide into
groups.
→ or tell
rules

$$13. a) (-56) \div (-7) \\ = +8$$

$$b) (+40) \div (-5) \\ = -8$$

$$c) (-88) \div (+8) \\ = -11$$

$$d) (+28) \div (+2) \\ = +14$$

$$14 a) \frac{-18}{2} = +9$$

$$b) \frac{+16}{-4} = -4$$

$$c) \frac{-18}{+6} = -3$$

$$d) \frac{0}{-9} = 0$$

$$15. a) (+24) \div (-12) \\ = -2$$

$$b) (-63) \div (+21) \\ = -3$$

$$c) (+75) \div (+15) \\ = +5$$

$$d) (-99) \div (-11) \\ = +9$$

$$16. (-63) \div (-3) = +21$$

She removed candies for 21 days.

$$17. (+72) \div (-9)$$

I had \$72 and I withdraw \$9 each week. How long ago did I have \$72.

$$\begin{aligned}
 18. \quad & -21 \div -1 = +21 \\
 & -21 \div -3 = +7 \\
 & -21 \div -7 = +3 \\
 & -21 \div -21 = +1
 \end{aligned}$$

$$\begin{aligned}
 & -21 \div +1 = -21 \\
 & -21 \div +3 = -7 \\
 & -21 \div +7 = -3 \\
 & -21 \div +21 = -1
 \end{aligned}$$

$$\begin{aligned}
 19. \quad & a) \quad 4 - 6(-2) \\
 20 \quad & 4 - (-12) \\
 & 4 + (+12) \\
 & +16
 \end{aligned}$$

$$\begin{aligned}
 b) \quad & \frac{(-18) - (-9)}{+2 + (-3)} - 3 \\
 & \quad \quad \quad -1
 \end{aligned}$$

$$\begin{aligned}
 c) \quad & \frac{[7 - (-3)] \div 5}{[7 + 3] \div 5} \\
 & \quad \quad \quad 10 \div 5 \\
 & \quad \quad \quad 2
 \end{aligned}$$

$$\begin{aligned}
 d) \quad & \frac{4(-6) \div (-2)}{-24 \div (-2)} \\
 & \quad \quad \quad +12
 \end{aligned}$$

$$\begin{aligned}
 21) a) \quad & (-8) \div (-4) + 6(-3) \\
 & = (-2) + 6(-3) \\
 & = (-2) + (-18) \\
 & = -20
 \end{aligned}$$

$$\begin{aligned}
 21) b) \quad & (-5) + (-12) \div (-3) \\
 & = (-5) + (+4) \\
 & = (-1)
 \end{aligned}$$

$$\begin{aligned}
 21) c) \quad & 18 + 3[10 \div (-5)] \\
 & = 18 + 3(-2) \\
 & = 18 + (-6) \\
 & = +12
 \end{aligned}$$

$$\begin{aligned}
 21) d) \quad & (-16) \div 8[7 - (-2)] \\
 & = (-16) \div 8[7 + (+2)] \\
 & = (-16) \div 8[9] \\
 & = (-2) [9] \\
 & = -18
 \end{aligned}$$

$$\begin{aligned}
 22) a) \quad & \frac{3(-6) - 3}{-7} \\
 & = \frac{(-18) - 3}{-7} \\
 & = \frac{(-18) + (-3)}{-7} \\
 & = \frac{-21}{-7} \\
 & = +3
 \end{aligned}$$

$$\begin{aligned}
 b) \quad & \frac{(-4) + [(-7) - (-2)]}{3} \\
 & = \frac{(-4) + [(-7) + (+2)]}{3} \\
 & = \frac{(-4) + [(-5)]}{3} \\
 & = \frac{(-9)}{3} \\
 & = -3
 \end{aligned}$$

$$\begin{aligned}
 c) \quad & \frac{20}{(-3) + (-14) \div 7} \\
 & = \frac{20}{(-3) + (-2)} \\
 & = \frac{20}{(-5)} \\
 & = -4
 \end{aligned}$$

24. Corey

$$\begin{aligned} & 3 \times (+2) + 3 \times (-3) + 4 \times (+1) \\ & + 6 + (-9) + (+4) \\ & + 1 \end{aligned}$$

Suzanne

$$\begin{aligned} & 4 \times (+2) + 4 \times (-3) + 2 \times (+1) \\ & + 8 + (-12) + (+2) \\ & - 2 \end{aligned}$$

Corey won since $+1 > -2$.