

Warm Up Grade 8

Wednesday, Sept. . 28



1) Evaluate. Show all steps

a) 
$$\frac{(-6)(+7) + (4)(-3)}{(-3)(-2)}$$

Top: 
$$\begin{aligned} &(-6)(+7) + (4)(-3) \\ &(-42) + (-12) \\ &(-42) + (-12) \\ &-54 \end{aligned}$$

Bottom: 
$$\begin{aligned} &(-3)(-2) \\ &= (+6) \end{aligned}$$

\* on ks!

b) 
$$\begin{aligned} &7[2 + (-10)] - 5(2) \\ &= 7[-8] - 5(2) \\ &= (-56) - 5(2) \\ &= (-56) - 10 \\ &= (-56) + (-10) \\ &= -66 \end{aligned}$$

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

+3, -9, -7, +6  
 $(+3) \times (+6) = +18$   
 $(-9) \times (-7) = +63$   
 $(-9) \times (-7) = +63$

Similar to what

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

x by (-5)

Since sign change the neg

Multiply by (-5)  
 ①

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1) Evaluate. Show all steps

a) 
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b) 
$$\begin{aligned} &7[2 + (-10)] - 5(2) \\ &= 7[-8] - 5(2) \\ &= (-56) - 5(2) \\ &= (-56) - 10 \\ &= (-56) + (-10) \\ &= -66 \end{aligned}$$

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

+3, -9, -7, +6

$(-) \times (-) \Rightarrow +(+)$   
 or  
 $(+) \times (+)$

$(-9) \times (-7) = +63$   
 $(+3) \times (+6) = +18$


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

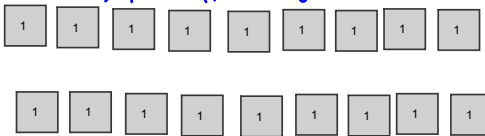
start at -2 multiply by -5

pg 97


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



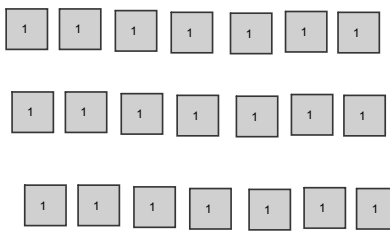
b)  $(+2) \times (+9)$   
 $(+9) + (+9) = +18$



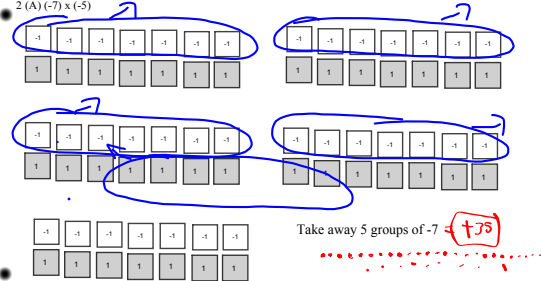
c)  $(+3) \times (-3)$   
 $(-3) + (-3) + (-3) = -9$



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

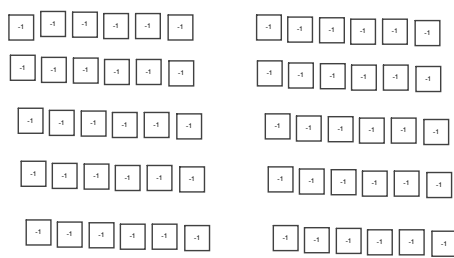


pg 97  
 2.  $(-7) \times (-5)$   
 2(A)  $(-7) \times (-5)$

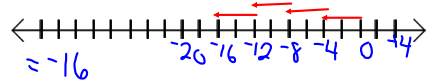


Take away 5 groups of -7 =  $+35$

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



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



$= -16$

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

3. 4 hours  $\rightarrow$  8 half hours  
 Temp change  $\rightarrow 8 \times (-2)$   
 $-16$  (+6) + (-2)(8)

Temp after 4 hours  $+6 + (-16)$   
 $-10$

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

c)  $(-11) \times (+13)$   $-143$  10 1  
10x10 10x1  
3x10 3x1  
30 3

11x12=132  
so 11x13=143  
-143

d)  $(-40) \times (-22)$   $+880$

4x22=88  
40x22=880  
+880

e)  $(-1) \times (+17)$   $-17$       f)  $-37 \times 0$   
 $0$

(-11) \times (+13) = -143

	10	3
-10	-10x10 =-100	3x(-10) -30
-1	(-1)x(+10) (-10)	(-1)x(+3) <span style="border: 1px solid blue; padding: 2px;">-3</span>

-100
-30
-10
-3
-143

$$(-32) \times (+15)$$

$$\left[ \overset{\text{Ignore sign}}{(-30) + (-2)} \right] \times (+10) + (+5)$$

$$\left[ (-30) \times (10) \right] + (-30) \times (+5) + (-2) \times (10) + (-2) \times (+5)$$

$$(-32) \times (+15)$$

Ignore sign

$$= (10 \times 30) + (10 \times 2) + (5 \times 30) + (2 \times 5)$$

$$= 300 + 20 + 150 + 10$$

$$= 480$$

	30	2
10	10x30 = 300	10x2 = 20
5	5x30 = 150	2x5 = 10

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

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

b)  $\frac{\quad}{+10} \times (+8) = +80$

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

d)  $\frac{\quad}{+15} \times (-4) = -60$

7 a)  $(55) \times 6$

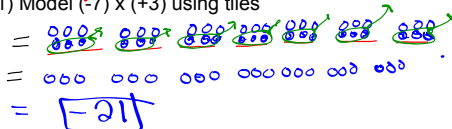
$55 \times 6$   
 $50 \times 6 = 300$   
 $5 \times 6 = 30$   
 $55 \times 6 = 330$   
 -330 ml of water

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

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

*take away*  
*zeros*  
**SOLUTIONS**

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



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

$+4$

$-9$

3) Evaluate  $\frac{4(-7) - (-2)}{(-3)(-4)}$

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**  
 $5 \times (-1) + 3(+2) + 1(-2)$   
 $(-5) + (+6) + (-2)$   
 $(+1) + (-2)$   
 $(-1)$

**Jim**  
 $4(-1) + 3(+3) + 2(-3)$   
 $(-4) + (+9) + (-6)$   
 $(+5) + (-6)$   
 $(-1)$

**More Practice**

Test is very similar warm ups

1) Model  $(-7) \times (+3)$  using tiles2) Find the quotient a)  $(-20) \div (-5)$  b)  $(+72) \div (-8)$ 3) Evaluate 
$$\frac{4(-7) - (-2)}{(-3)(-4)}$$

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?

-1

$$\frac{2 + [4x(-2x3) - 10]}{3 + 2(10) \div 4}$$

## Review for Test

Be able to multiply and divide integers, using;  
- models (Tiles)

- 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

6 Short Response

\*Model multiplication with tiles

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

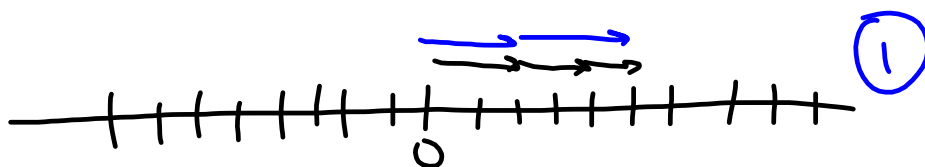
\*similar to today's warmup (Especially word problem)

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

\* Evaluate multiplication and division

\*BEDMAS

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



# Class/Homework

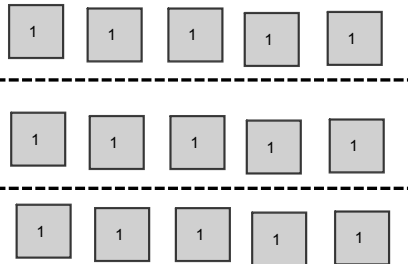
Page 97-98

#9(a,c...no tiles), #11a, #13a, #16, #20, #21, #22, #23

Test tomorrow

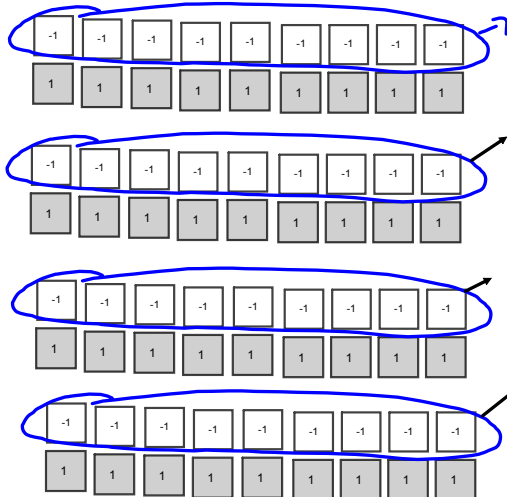
All solutions to tonight's homework will be posted on line in this VERY lesson

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



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

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



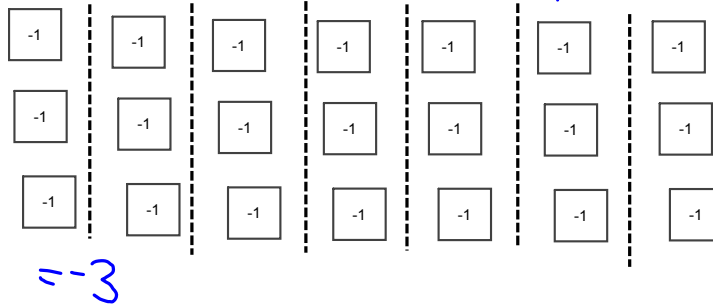
Take away  
4 groups of -9

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



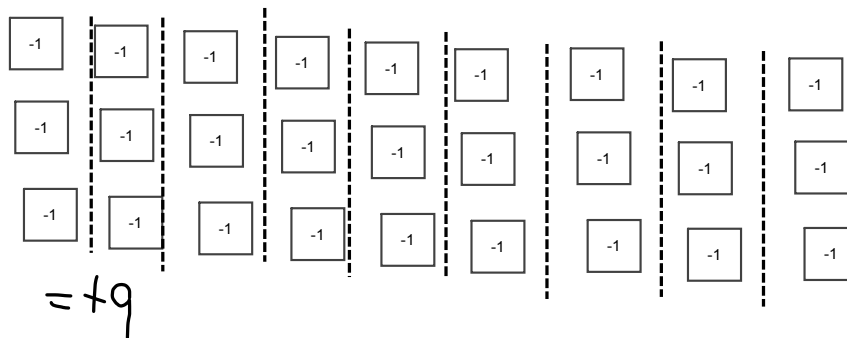
$$a) (-21) \div (+7)$$

Divide -21 into 7 groups

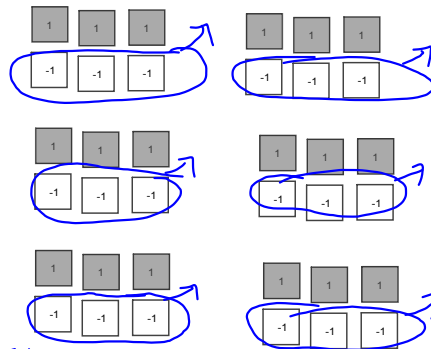


$$d) (-27) \div (-3)$$

-27 divided into groups of -3



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



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.

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

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

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

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

Explain  
how to  
divide into  
groups.  
→ or tell  
rules

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

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

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

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

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

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

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

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

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

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

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

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

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

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.

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

$$\begin{array}{ll}
 19. a) & 4 - 6(-2) & b) \frac{(-18) - (-9)}{+2 + (-3)} - 3 \\
 20 & 4 - (-12) & \quad \quad \quad -1 \\
 & 4 + (+12) & \\
 & +16 & 
 \end{array}$$

$$\begin{array}{ll}
 c) & \frac{[7 - (-3)] \div 5}{[7 + 3] \div 5} & d) \frac{4(-6) \div (-2)}{-24 \div (-2)} + 12 \\
 & \frac{10 \div 5}{2} & 
 \end{array}$$

$$\begin{array}{llll}
 21) a) & \frac{(-8) + (-4) + 6(-3)}{(-2) + 6(-3)} & 21) b) & \frac{(-5) + (-12) + (-3)}{(-5) + (+4)} \\
 & = (-2) + (-18) & & = (-1) \\
 & = -20 & & \\
 21) c) & 18 + 3[10 + (-5)] & 21) d) & \frac{(-16) + 8[7 + (-2)]}{(-16) + 8[7 + (-2)]} \\
 & = 18 + 3(-5) & & = (-16) + 8[5] \\
 & = 18 + (-15) & & = (-16) + 40 \\
 & = +3 & & = 24
 \end{array}$$

$$\begin{array}{lll}
 22) a) & \frac{3(-6) - 3}{-7} & b) \frac{(-4) + [(-7) - (-2)]}{3} \\
 & = \frac{(-18) - 3}{-7} & \\
 & = \frac{(-18) + (-3)}{-7} & \\
 & = \frac{-21}{-7} & \\
 & = +3 & \\
 & & c) \frac{20}{(-3) + (-14) + 7} \\
 & & = \frac{20}{(-3) + (-2)} \\
 & & = \frac{20}{(-5)} \\
 & & = -4
 \end{array}$$

24. Corey

$$\begin{array}{l}
 3x(+2) + 3x(-3) + 4x(+1) \\
 +6 + (-9) + (+4) \\
 +1
 \end{array}$$

Suzanne

$$\begin{array}{l}
 4x(+2) + 4x(-3) + 2x(+1) \\
 +8 + (-12) + (+2) \\
 -2
 \end{array}$$

Corey won since  $+1 > -2$ .