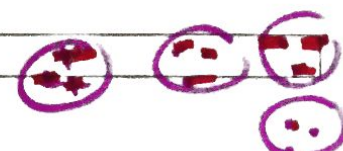
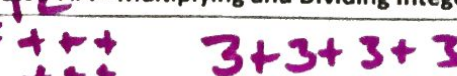


Mini Lesson #4 - Multiplying and Dividing Integers

How can you model $3 \cdot 4$?



How can you model $-3 \cdot 4$?



Is 4×-3 the same as $-3 \cdot 4$? Why?

$4 \cdot 3 = 12$
 $-3 \cdot 4 = -12$

~~30~~ $5 \cdot -7 = -35$ $-8 \cdot 3 = -24$

Complete the charts. Look for PATTERNS!

CHART 1	
$4 \cdot 5$	20
$4 \cdot 4$	16
$4 \cdot 3$	12
$4 \cdot 2$	8
$4 \cdot 1$	4
$4 \cdot 0$	0
$4 \cdot -1$	-4
$4 \cdot -2$	-8
$4 \cdot -3$	-12
$4 \cdot -4$	-16

CHART 2	
$-4 \cdot 5$	-20
$-4 \cdot 4$	-16
$-4 \cdot 3$	-12
$-4 \cdot 2$	-8
$-4 \cdot 1$	-4
$-4 \cdot 0$	0
$-4 \cdot -1$	4
$-4 \cdot -2$	8
$-4 \cdot -3$	12
$-4 \cdot -4$	16

CHART 3	
$20 \div 4$	5
$16 \div 4$	4
$12 \div 4$	3
$8 \div 4$	2
$4 \div 4$	1
$0 \div 4$	0
$-4 \div 4$	-1
$-8 \div 4$	-2
$-12 \div 4$	-3
$-16 \div 4$	-4

$4 \cdot -9 = -36$

$-7 \cdot -6 = 42$

Can you write the multiplication problems below as two different division problems?

$4 \cdot -2 = -8$

$-8 \div -2 = 4$ OR $-8 \div 4 = -2$

$4 \cdot -3 = -12$

$-12 \div 4 = -3$ OR $-12 \div -3 = 4$

So based on what you did above fill in the problems below

$-20 \div 4 = -5$

$-20 \div -5 = 4$

$-15 \div 3 = -5$

$-15 \div -3 = 5$

- Based on patterns and observations you made in the previous work in Mini Lesson #4 try to formulate rules/statements for multiplying and dividing integers. Make sure you address all possible situations.

Rules for Multiplying Integers	Rules for Dividing Integers
<p>Like signs (+ +)</p> <ul style="list-style-type: none"> • mult • positive answer <p>Unlike sign (+ -)</p> <ul style="list-style-type: none"> • mult • neg. answer 	<p>Same as mult. just \div numbers</p>

- Use your rules to simplify the following problems.

1) $5 \cdot -7 = -35$

2) $-4 \cdot -9 = 36$

3) $-63 \div -7 = 9$

4) $-50 \div 10 = -5$

5) $-4 \cdot -5 \cdot -6$
 $\checkmark 20 \cdot -6 = -120$

6) $-100 \div -10 = 10$

7) $-8 \cdot 4 \cdot -2$
 $\checkmark -32 \cdot -2 = 64$

- 8) If a drill could dig into the ground and go down 5 feet every minute, how far down could you drill in 10 minutes? What integer could represent the depth after the 10 minutes?

$-5 \cdot 10 = -50$