Your turn

Multiplying Two Negative Integers Using TILES

Sept 9, 2016

Math 8

O ⇒ -
● ⇒ +

put down 2 groups of -4 ← unshaded

We just said , (+2) x (-4) means 2 sets of -4, but we always start with zero,so what are we doing with the 2 sets of -4?

0000 0000 −8

If (+2) x (-4) means to put down 2 sets of -4, what does (-2) x (-4) mean? (Always start with zero)

It means to take away 2 groups of -4

(−2) x (−4) ← unshaded

take away 2 groups of -4

= +8

So (-2) x (-4) = +8

What about (-3) x (-2)? It means take away 3 groups of -2.

take away 3 groups of -2

So (-3) x (-2) = +6

Now try (-5) x (-1)

(-5) x (-1) = +5

So when you multiply two negative integers, multiply the numbers and your answer will always be positive

Final Multiplying rule (-) x (-) = +

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

put down

2 groups of -3 tiles

○ ⇒ -

● ⇒ +

000 000 = -6

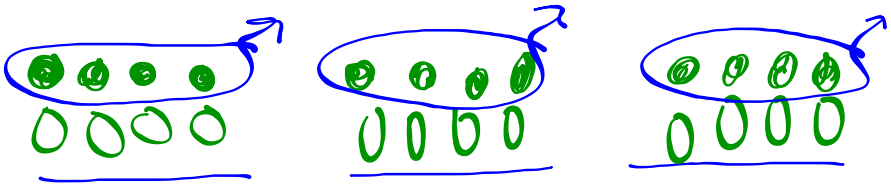
Ex)

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

take away 3 groups

of

4 shaded (positives)



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$\boxed{-12}$

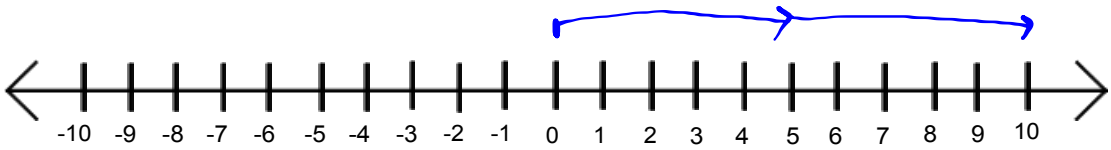
Number line Modeling

think jumps

- we will focus on (+) x (-) or (+) x (+)

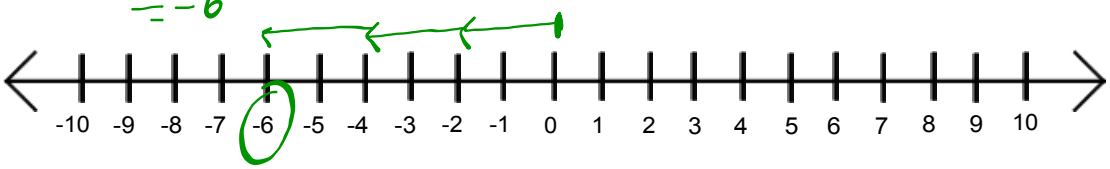
(+2) x (+5) = +10

Always start at zero



Ex 2) (+3) x (-2) = -6

3 Jumps of (-2)



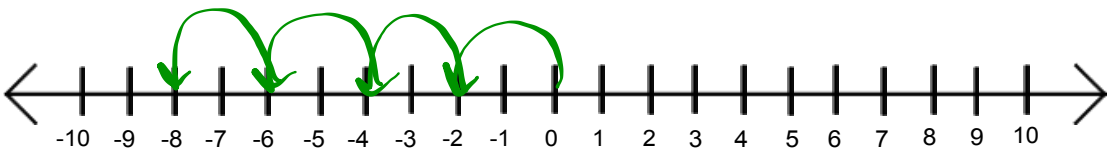
$a \times b = b \times a$

$2 \times 3 = 3 \times 2$

6 6

Ex 3) (-2) x (+4) = -8 use commutative rule

(+4) x (-2)



Homework/ Class Work

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5, 6,7, 8(a,c)
AND

tiles or # line

5a) $(-1)+(-1)+(-1)$

$3 \times (-1)$
$= -3$

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

$5 \times (-2)$
-10

6a) $(+7) \times (-4) = -28$

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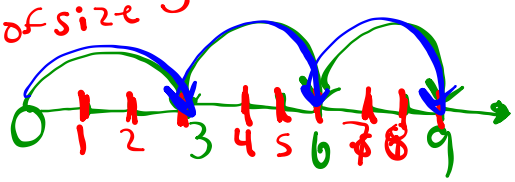
$(-4)+(-4)+(-4)+(-4)+(-4)+(-4)+(-4)$

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

3 jumps of size 3



Black tiles = ⊖ unshad
Red tiles
negative

White tile = ⊕ shaded
Yellow in text