

MULTIPLICATION WITH NEGATIVE NUMBERS

A negative times a positive is _____

But, why?

Recall: $3 \cdot 4 = 3 + 3 + 3 + 3 =$

So, $(-3) \cdot 4 =$

$=$

$=$

By the commutative property,

$(-3) \cdot 4 =$

therefore, a positive times a negative is also negative!

A negative times a negative is _____

But, why?

Recall: $-1 \cdot 3 = (-1) + (-1) + (-1) = -3$

$-1 \cdot 5 = (-1) + (-1) + (-1) + (-1) + (-1)$
 $= -5$

Notice that if you multiply a number by -1 , the result is its opposite.

$$-1(5) =$$

$$-1(8) =$$

$$-1(x) =$$

$$-1(-3) =$$

Remember, the opposite of -3 is 3

$$-1(-5) =$$

Remember, the opposite of -5 is 5

Notice: $-1(-3) = -(-3) = 3$

$$-1(-5) = -(-5) = 5$$

Conclusion: Multiplying two negatives together gives a positive result.

↳ example 1: Evaluate:

a) $-2(-5) =$

b) $-3(-4) =$

c) $7 \cdot 8 =$

d) $7(-8) =$

e) $-7(8) =$

f) $-7(-8) =$

NOTE: Recall that if everything is being added, you can add in any order. Since multiplication is multiple addition, if everything is being multiplied, you can multiply in any order.

↳ example 2: Evaluate

a) $-4(-2)(-3)$

b) $-3(4)(-2)$

c) $-2(3)(4)$

↳ example 3: Evaluate

a) $2^3 =$ _____
= _____

b) $(-2)^3 =$ _____
= _____

c) $-2^3 =$ _____
= _____

↳

example 4: Evaluate

$$a) 3^4 =$$

=

$$b) (-3)^4 =$$

=

$$c) -3^4 =$$

=

MULTIPLICATION WITH NEGATIVE NUMBERS Practice Problems

1. A positive times a negative is

2. A negative times a negative is

3. $9 \cdot 7 =$

4. $9(-7) =$

5. $-9(-7) =$

6. $2^4 =$

7. $(-2)^4 =$

8. $-2^4 =$