

The Guests are Multiplying
but can they Divide!

The Party in Mathland

Have you ever been to a party like this? Everyone is happy and having a good time (they are ALL POSITIVE). Suddenly, who should appear but the GROUCH (ONE NEGATIVE)! The grouch goes around complaining to everyone about the food, the music, the room temperature, the other people.... What happens to the party? Everyone feels a lot less happy... the party may be doomed!! ONE NEGATIVE MAKES EVERYTHING NEGATIVE But wait... is that another guest arriving? What if another grouch (A SECOND NEGATIVE) appears? The two negative grouches pair up and gripe and moan to each other about what a horrible party it is and how miserable they are!! But look!! They are starting to smile; they're beginning to have a good time, themselves!! PAIRS OF NEGATIVES BECOME POSITIVE Now that the two grouches are together the rest of the people (who were really positive all along) become happy once again. The party is saved!! -----

The moral of the story is that (at least in math, when *multiplying or dividing*) the number of positives don't matter, but watch out for those negatives!! To determine whether the outcome will be positive or negative, count the number of negatives: If there are an even number of negatives --and you can put them in pairs-- the answer will be positive, if not... it'll be negative:

Negatives in PAIRS are POSITIVE;
NOT in pairs, they're NEGATIVE.

In note book answer the following:
- Summarize the story
- What is the moral of the story?

Do **NOT** Write On Leave for next class

Copy into notebook as we go through each excersize

Multiplying Integers

Writing multiplication problems
using ()

$$-8 \times 12 = -8(12)$$

$$5(15) = 5 \times 15$$

$$-8(-6) =$$

Step 1
Multiply Numbers

$$8 \times 6 =$$

Step 2

Like or Unlike?????

Like: answer positive

$$-8(-6) =$$

Unlike: answer negative

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Multiplying Integers Long Problems

$$-8(5)(-3)(-2) =$$

Step 1
Multiply Numbers

$$8 \times 5 \times 3 \times 2 =$$

Step 2
Multiply Negatives

$$-8(5)(-3)(-2) =$$

↓ ↓ ↓
- - -
X X

Cancel out pairs

Everything cancels:

Answer positive

1 negative sign left :

answer negative

$$-8(5)(-3)(-2) =$$

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Dividing Integers

Writing Division problems

$$63 \div 9 = \frac{63}{9}$$

$$\frac{15}{5} = 15 \div 5$$

$$\frac{-18}{-6} =$$

Step 1

Divide Numbers

$$18 \div 6 =$$

Step 2

Like or Unlike?????

Like: answer positive

$$\frac{-18}{-6} =$$

Unlike: answer negative

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Dividing Integers

Long Problems

$$72 \div (-9) \div (-2) =$$

Step 1

Divide Numbers

Must Divide from Left to Right

$$72 \div 9 \div 2 =$$

Step 2

Divide Negatives

$$72 \div \underset{\downarrow}{(-9)} \div \underset{\downarrow}{(-2)} =$$

Cancel out pairs

Everything cancels:

Answer positive

1 negative sign left :

answer negative

$$72 \div (-9) \div (-2) =$$