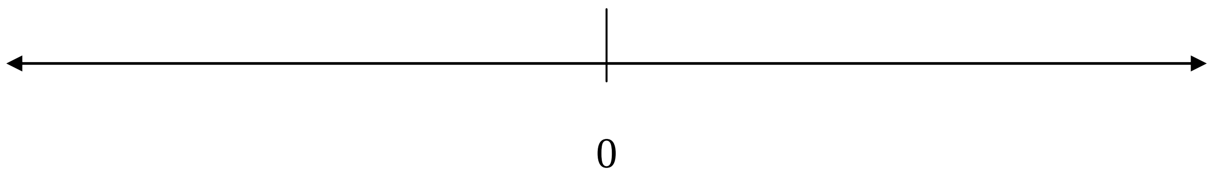
Order of Operations with Integers

Adding and Subtracting Integers

We need to differentiate between the +/- sign and the add/ subtract operation

- the sign negative/positive represents position along the number line,
- add subtract represents movement on the number line



Different meanings

Ex a) -5 – 7

Position
(where you are)

Direction and magnitude of movement
(where you are going)

Eg. 5 km **south** of Squamish	Eg. **Drive** **south** 7 km

OR

Eg. You **owe** $5	Eg. You **lose** $7 more

Ex 1. (a) -2 + 8 =

(b) -3 – 9 =

(c) -4 + (-3) – (-5) =

- come up with a question and relate the #'s to a situation like the examples

Multiplication and Division of Integers

Double negatives cancel out

Negative statement : I **dis** like ice cream = (- ice cream)
Double negative : I **don’t** **dis** like ice cream

$$(-) \times (\text{- ice cream}) = (\text{+ ice cream})$$

Ex 2. (a) $-3 \times -2 =$

(b) $(-2) \times 3 \times -7 =$

(c) $(-18) \times (-4) \div (-6) =$

odd # of negatives give you negative, even # of negatives give you positive

Exponents

$$\begin{array}{ccc} (-3)^2 & \neq & -3^2 \\ \downarrow & & \downarrow \\ 9 & & -9 \end{array}$$

Exponents only affects what is directly below it!

Ex 3. (a) $(-7)^3 =$

(b) $-(2)^4 =$

(c) $-3^2 \times (-2)^3$

<u>Absolute Value</u>

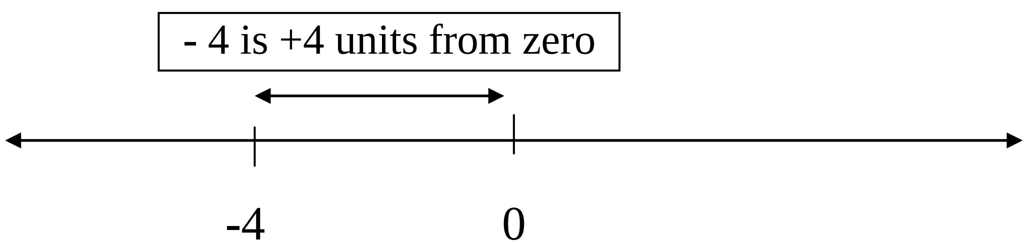
Absolute value are special brackets, two straight lines $| \quad |$

- Like brackets, you must do the operations inside first.
- The difference is that the number inside gets changed to a positive before you remove the brackets

Eg. $|-2| = +2$
$|+2| = +2$ ← doesn't change the positives

Eg 2. $|5 - 9| \rightarrow |-4| \rightarrow +4$ Work out the inside before you change the sign

- one way to look at absolute value is the <u>distance</u> that a number is from zero on the number line.



Ex 4. (a) $|-4 - 2| =$

(b) $|-5 + 9| =$

(c) $|(-3) \times (-4) \times (-1)| =$

web site for practice: http://regentsprep.org/Regents/math/absvalue/PracAbs.htm