Simplifying signed numbers and absolute values

Rules for signed numbers :

Addition:

Two positive numbers: Add and keep the sign (positive)

$(+)+(+)=+$ $\quad 23+5=28$

Two negative numbers: Add and keep the sign (negative)

$(-)+(-)=-$ $\quad -4+(-12)=-16$

One negative, one positive: Subtract and keep the sign of the number with the greatest absolute value.

$(+)+(-)=+ \text{ or } -$ $\quad 11+(-4)=7$ (positive is larger)

$2+(-14)=-12$ (negative is larger)

$(-)+(+)=+ \text{ or } -$ $\quad -9+3=-6$ (negative is larger)

$-5+11=6$ (positive is larger)

Subtraction:

Change all subtraction problems to addition problems

$(+)-(+)=(+)+(-)$	$26-3=26+(-3)=20$	(positive larger)
	$11-14=11+(-14)=-3$	(negative larger)
$(-)-(-)=(-)+(+)$	$-5-(-9)=-5+9=4$	(positive larger)
	$-21-(-7)=-21+7=-14$	(negative larger)
$(+)-(-)=(+)+(+)$	$17-(-5)=17+5=22$	(keep sign)
$(-)-(+)=(-)+(-)$	$-5-12=-5+(-12)=-17$	(keep sign)

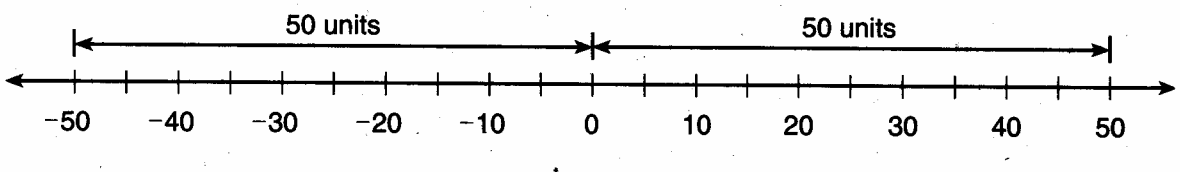
Multiplication and Division:

The product or quotient of two negative numbers or two positive numbers will always be positive. The product or quotient of one positive and one negative number will always be negative.

$(+)\bullet(+)=+$	$(-)\bullet(-)=+$	$(+)\bullet(-)=-$	$(-)\bullet(+)=-$
$(+)\div(+)=+$	$(-)\div(-)=+$	$(+)\div(-)=-$	$(-)\div(+)=-$

Absolute Value:

The absolute value of a real number (n) is the number's distance form the origin on a number line. It is shown by the symbol $|n|$.



For example, the absolute value of a positive number such as 50 is the number itself: $|50| = 50$. If a number is negative, drop the negative sign to find its absolute value: $|-50| = 50$. If a negative sign is outside the absolute value sign, multiply the absolute value of the number by -1. $-|-50| = -(50) = -50$