Solving Absolute Value Inequalities with the TI-85

Solve: $|2x + 5| > 7$

Algebraically:

$2x + 5 > 7$ or $2x + 5 < -7$

$2x > 2$ $2x < -12$

$x > 1$ $x < -6$

x is all the values less than -6 or greater than 1.

$(-\infty, -6) \cup (1, \infty)$

Graphically   (**abs** is the command for absolute value**)**

Solve $|2x + 5| > 7$

> **Graph**
> **F1: Y=**
>
> (Clear functions)
>
> Y1= abs(2x + 5)
> Y2 = 7
>
> **Exit**
> **F3: Zoom**
> **F4:ZStd**   This graphs the equations in the standard viewing window.

The solution is the set of values for x for which Y1 is greater than (**above**) Y2.

Find the points of intersection using **More, F1: Math, More** then **F5: Isect** :

(-6, 7) and (1, 7)

Y1 is **above** Y2 for all the x values to the **left** of -6 and to the **right** of 1.

The solution is $(-\infty, -6) \cup (1, \infty)$.