

Solving 3-part inequalities on the TI-92

$$\text{Solve } -7 < 2x - 5 < 3$$

Algebraically:

$$-7 < 2x - 5 < 3$$

$$-2 < 2x < 8$$

$$-1 < x < 4$$

x is all the values between -1 and 4.

$$(-1, 4)$$

Graphically

$$\text{Solve } -7 < 2x - 5 < 3$$

Set the viewing window to a standard view.

Graph each part of the inequality.

Diamond Y=

(Clear functions)

$$Y1 = -7$$

$$Y2 = 2x - 5$$

$$Y3 = 3$$

Diamond Graph

The solution is the values of x for which the graph of Y2 is between the graphs of Y1 and Y3.

Find the point of intersection between Y1 and Y2 and between Y2 and Y3.

F5: Math

5 Intersection

1st Curve: Cursor on Y1

Enter

2nd Curve: Cursor on Y2

Enter

Lower Bound: - move cursor to the left of the intersection

Enter

Upper Bound: - move cursor to the right of the intersection

Enter

The intersection is the point $(-1, -7)$.

Repeat the procedure to find the point of intersection between Y2 and Y3.

(Use the down arrow to move the cursor to Y2)

The intersection is the point $(4, 3)$.

The solution is all the x-values between those two points. $(-1, 4)$