Date:.....

Name

Muhammad Umar

Farooq

Quiz-1

Math 108

Calculas and analytical geometery

Solve the following inequalities and express the solution set as union of interval. Also show the solution set on real line

Date:.....

$$|2-3x| > 5$$

$\Rightarrow 2-3x = \pm 5$

$\Rightarrow 2-3x = 5$

$-3x = 5-2$

$-3x = 3$

$x = \frac{-3}{3}$ 1

$x = -1$

$2-3x = -5$

$-3x = -5-2$

$-3x = -7$

$= \frac{-7}{-3}$

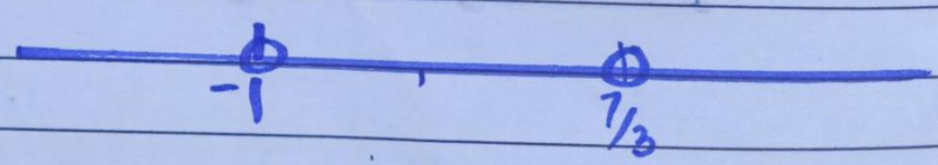
$x = \frac{7}{3}$

$(-\infty, -1), [-1, \frac{7}{3}], (\frac{7}{3}, \infty)$

Only two intervals satisfied

now;

$(-\infty, -1), (\frac{7}{3}, \infty)$



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Question#02

$$y = x^2 + 4x + 3$$

Vertex $\Rightarrow$ $x = \frac{-b}{2a}$

$$= \frac{-4}{2(1)} = -2$$

$$y = (-2)^2 + 4(-2) + 3 = -1$$

$$V = (-2, -1)$$

if $x = 0$, $y = 0$ then $y = 3$

$$x^2 + 4x + 3 = 0$$

$$x^2 + 3x + x + 3 = 0$$

$$x(x+3) + 1(x+3) = 0$$

$$(x+1)(x+3) = 0$$

$x + 1 = 0$ $\quad$ $x + 3 = 0$

$x = -1$ $\quad$ $x = -3$

Axis of parabola is $x = -2$

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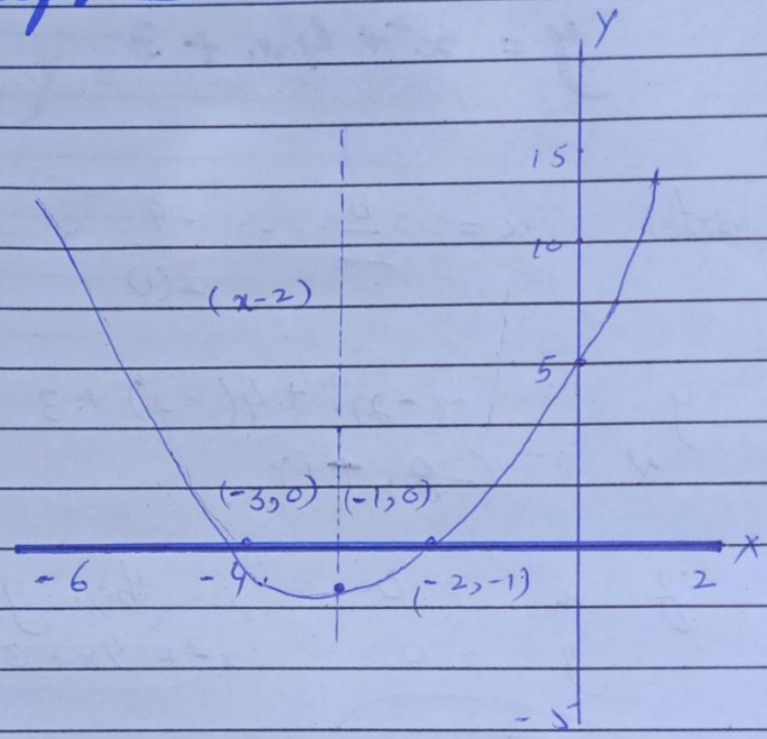
Graph



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