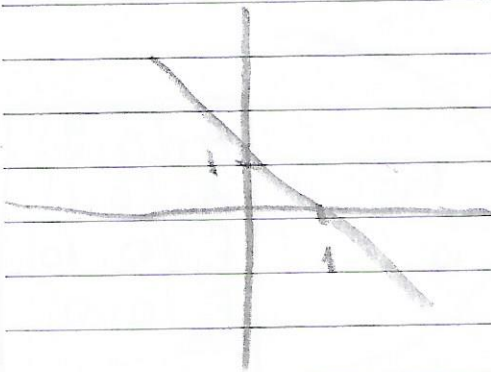


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S T Q Q S S D



$$y = -x + 1$$

$$d((x, y), (0, 1)) + d((x, y), (1, 0)) = 2a$$

$$\sqrt{x^2 + (y-1)^2} + \sqrt{(x-1)^2 + y^2} = 3$$

$$\sqrt{x^2 + (y-1)^2} = 3 - \sqrt{(x-1)^2 + y^2}$$

$$\cancel{x^2} + y^2 - 2y + 1 = 9 - 6\sqrt{(x-1)^2 + y^2} + \cancel{x^2} - 2x + 1 + \cancel{y^2}$$

$$2(x-y) = 9 - 6\sqrt{x^2 - 2x + 1 + y^2}$$

$$4(x-y)^2 - 36(x-y) + 81 = 36(x^2 - 2x + 1 + y^2)$$

$$4x^2 - 8xy + 4y^2 - 36x + 36y - 36x^2 + 72x - 36y^2 - 36 + 81 = 0$$

$$\boxed{-32x^2 - 32y^2 - 8xy + 36x + 36y + 45 = 0}$$

$$y = \frac{3}{4} + 1 \Leftrightarrow y = 2$$

$$B: d((0, 1), (x, 3x+1)) = \sqrt{10}$$

$$x^2 + (1-3x-1)^2 = 10$$

$$10x^2 = 10$$

$$x = 1$$

$$y = 3 \cdot 1 + 1$$

$$y = 4$$

