

to
calculated Discharge

for (every pt in box)

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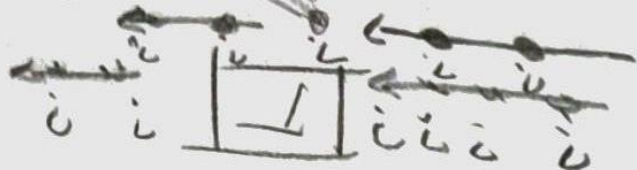
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533

1. I don't want to
be involved in
the program
it's not my
business

~~11 11 01~~
~~11- 11- 21-~~
 $f_j = p$

12 ← 11 → 10
1 ← 11 → 12

1030 .001
- 3.20, 3.682
1030 .001, 0.0

10.0
 9.0
 8.0
 7.0
 6.0
 5.0
 4.0
 3.0
 2.0
 1.0
 0.0

$$\sqrt{(0-x)^2 + (0-y)^2}$$

~~$$\sqrt{(0-x)^2 + (0-y)^2} + 11.81 \sqrt{(0.05-x)^2 + (0-y)^2}$$~~

$$\sqrt{(0-x)^2 + (0-y)^2} + 11.81 \cdot \text{delay} A = \sqrt{(0.05-x)^2 + (0-y)^2}$$

equation 1

$$\sqrt{(0-x)^2 + (0-y)^2} + 11.81 \cdot \text{delay} B = \sqrt{(0.05-x)^2 + (0-y)^2}$$

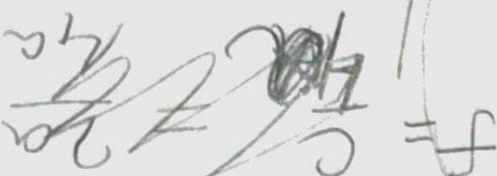
equation 2

plug into desmos

intersection

$$(-3.5, 4)$$

$$\frac{1}{2} \times 2 = 1$$



$$c = x_{fH}$$

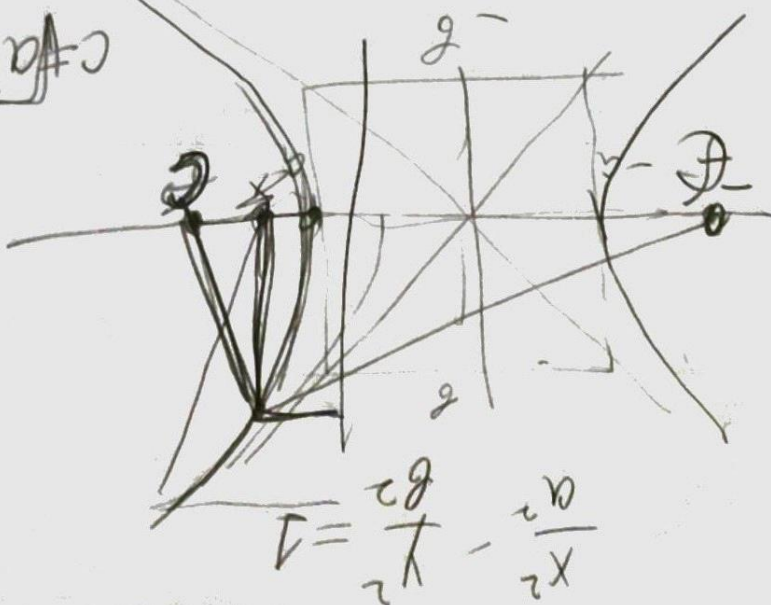
$$0 = x^2 + 2fx$$

$$(f+x)^2 - f^2 = 0$$

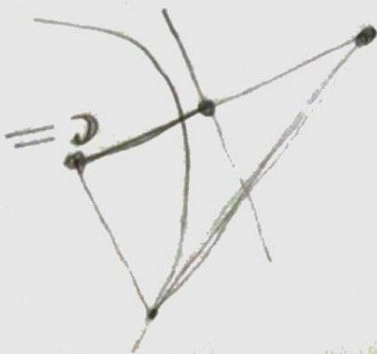
$$- \left[(f-x)^2 + y^2 + (f+x)^2 + y^2 \right] = c$$

$$C \neq a^2 + b^2$$

$$\overline{f+a} - (f+a) = 2a$$



$$\frac{x_2}{a_2} - \frac{y_2}{b_2} = 1$$



$$a^2 + b^2 = c^2$$

$$\frac{x}{a} = f$$

$$-1.25 - x + x^2 + 1 + y^2$$

$$-1.25 - x + x^2 + y^2 = .390^2 + .780 RCT + RCT^2$$

$$RAT = \sqrt{(.5 - x)^2 + (0 + y)^2}$$

$$RAT - RCT = 1.047M$$

$$(RAT)^2 = (1.047 + RCT)^2$$

$$\cancel{.25} + x^2 + y^2 = 1.047^2 + 2.094 RCT + RCT^2$$

$$\cancel{.25} + x^2 + y^2 = .390^2 + .780 RCT + RCT^2$$

$$2x^2 + 2y^2 = 1.248 + 2.874 RCT + 2 RCT^2$$

$$2x^2 + 2y^2 = 1.248 + 2.874 \sqrt{(0-x)^2 + (1-y)^2} + 2 \sqrt{(0-x)^2 + (1-y)^2}$$

$$2x^2 + 2y^2 = 1.248 + 2.874 \sqrt{x^2 + y^2 - 2y + 1} + 2 \sqrt{x^2 + y^2 - 2y + 1}$$

$$\cancel{2x^2 + 2y^2} = 1.248 + 2.874 \sqrt{x^2 + y^2 - 2y + 1} + \cancel{2x^2 + 2y^2 - 4y + 2}$$

$$4y - 2 = 1.248 + 2.874 \sqrt{x^2 + y^2 - 2y + 1}$$

$$4y - 3.248 = 2.874 \sqrt{x^2 + y^2 - 2y + 1}$$

$$\left(\frac{4y - 3.248}{2.874} \right)^2 = x^2 + y^2 - 2y + 1$$

$$\frac{16y^2 - 25.984y + 10.54304}{8.259876} = x^2 + y^2 - 2y + 1$$

$$16y^2 - 25.984y + 10.54304 = 8.259876x^2 + 8.259876y^2 - 16.519752y + 8.259876$$

$$ax^2 + by^2 + cx + dy + e = 0$$

$$y_{int} =$$

$$-bx \pm \sqrt{b^2 - 4ac}$$

R

Distance btw C and the transmitter

$$R_{CT} = \sqrt{(0-x_T)^2 + \sqrt{(0-y_T)^2}}$$

$x_C = 0$ Dist btw B and receiver

$$x_B = -5 \quad R_{BT} = \sqrt{(-5-x_T)^2 + (0-y_T)^2}$$

$$x_A = 5 \quad R_{AT} - R_{BT} = 340 \text{ m}$$

$$y_C = 1$$

$$y_B = 0$$

$$(0,1) y_A = 0$$

$$(R_{BT})^2 = (-340 + R_{AT})^2$$

next page

$$-5x - x$$

T

R_{CT}

R_{AT}

R_{BT}

$$-5x - x$$

A

A(5,0)

B(-5,0)

Slightly longer to B

Much longer to A

Sound seems to be originating from the North East

North East

$$1481 \cdot 2.63474 \cdot 10^{-4} = 0.390 \text{ m}$$

m/sec

more flight

to B than C

$$1481 \text{ m/s} \cdot 7.07023 \cdot 10^{-4} \text{ s} = 1.047 \text{ m}$$

more flight

to A than C

41.0 m