

$$x^2 - mx + r = 0$$

$$\left\{ \begin{array}{l} a + B = m \\ a - B = r \end{array} \right\} \Rightarrow a + B = m \rightarrow r + B = m \rightarrow B = \frac{m-r}{2}, a = \frac{m+r}{2}$$

$$\rightarrow a + B = \frac{m+r}{2} + \frac{m-r}{2} = \frac{2m}{2} = m$$

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$$x^2 - \xi x + m = 0$$

$$\left\{ \begin{array}{l} x_1 + x_2 = \xi \\ x_1 - x_2 = r \end{array} \right\} \Rightarrow x_1 + x_2 = \xi \rightarrow \xi + x_2 = \xi \rightarrow x_2 = 0, x_1 = \xi$$

$$\Rightarrow x_1 \cdot x_2 = \xi \cdot 0 = 0$$

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$$a + B = V$$

$$a \cdot B = r \rightarrow B = \frac{r}{a} \rightarrow B^2 = \frac{r^2}{a^2} \rightarrow a^2 + \frac{r^2}{a^2} = (a+B)^2 = V^2 \rightarrow a^2 + \frac{r^2}{a^2} = V^2$$

$$\rightarrow (V)^2 - \frac{r^2}{a^2} = 2a^2 \rightarrow a^2 = \frac{V^2 - r^2}{2} \rightarrow a = \sqrt{\frac{V^2 - r^2}{2}}$$

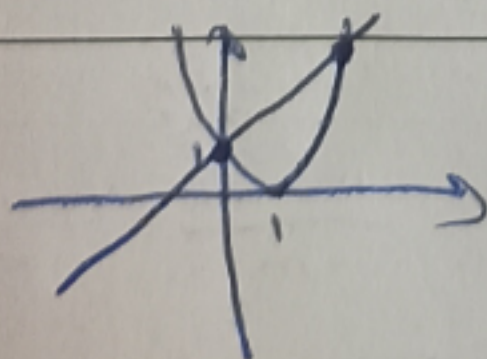
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$$h(t) = -\frac{1}{2}gt^2 + v_0 t \rightarrow -\frac{1}{2}gt^2 = \frac{1}{2}gt^2 \rightarrow -\frac{1}{2}g(t^2) + \frac{1}{2}g(t^2) = 0$$

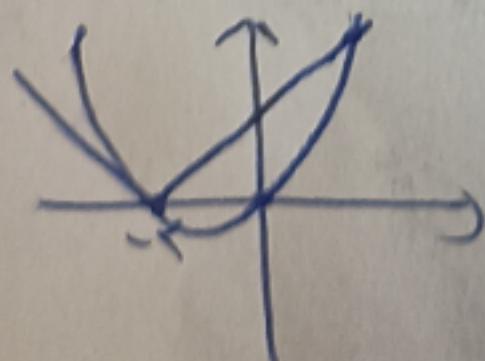
$$h = 0 \Rightarrow -\frac{1}{2}gt^2 + v_0 t = 0 \rightarrow -\frac{1}{2}g(t^2) + v_0 t = 0 \rightarrow t^2 = \frac{2v_0 t}{g} \rightarrow t = \frac{2v_0}{g}$$

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$$f(x) = x^2 - 1$$



$$f(x) = x^2 - 1$$



$$f(x) = x^2 - 1 \rightarrow \frac{1 - x^2}{1 + x^2}$$

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