HA 7 2610

April 4

$$\frac{di}{dt} = \beta(i - i_0) - \frac{i}{\tau}$$

$\Sigma \tau/\varepsilon$

$$= \beta i - \frac{i}{\tau} - \beta i_0 =$$

$$= i\left(\beta - \frac{1}{\tau}\right) - \beta i_0$$

Let $i = \delta + i_0$

$$\frac{di}{dt} = \frac{d\delta}{dt} = (\delta + i_0)\left(\beta - \frac{1}{\tau}\right) - \beta i_0$$

$$= \delta\left(\beta - \frac{1}{\tau}\right) + \beta i_0 - \frac{i_0}{\tau} - \beta i_0$$

$$= \delta\left(\beta - \frac{1}{\tau}\right) - i_0/\tau$$

$$i = i_\infty\left(1 - e^{-(\beta - \frac{1}{\tau})t}\right) = i_\infty - i_\infty e^{-(\beta - \frac{1}{\tau})t}$$

2540

$$\frac{di}{dt} = +i_\infty\left(\beta - \frac{1}{\tau}\right) e^{-(\beta - \frac{1}{\tau})t}$$

$$-\frac{di}{dt} = i_\infty\left(\beta - \frac{1}{\tau}\right) - i_\infty\left(\beta - \frac{1}{\tau}\right) e^{-(\beta - \frac{1}{\tau})t} - i_\infty(\,)$$

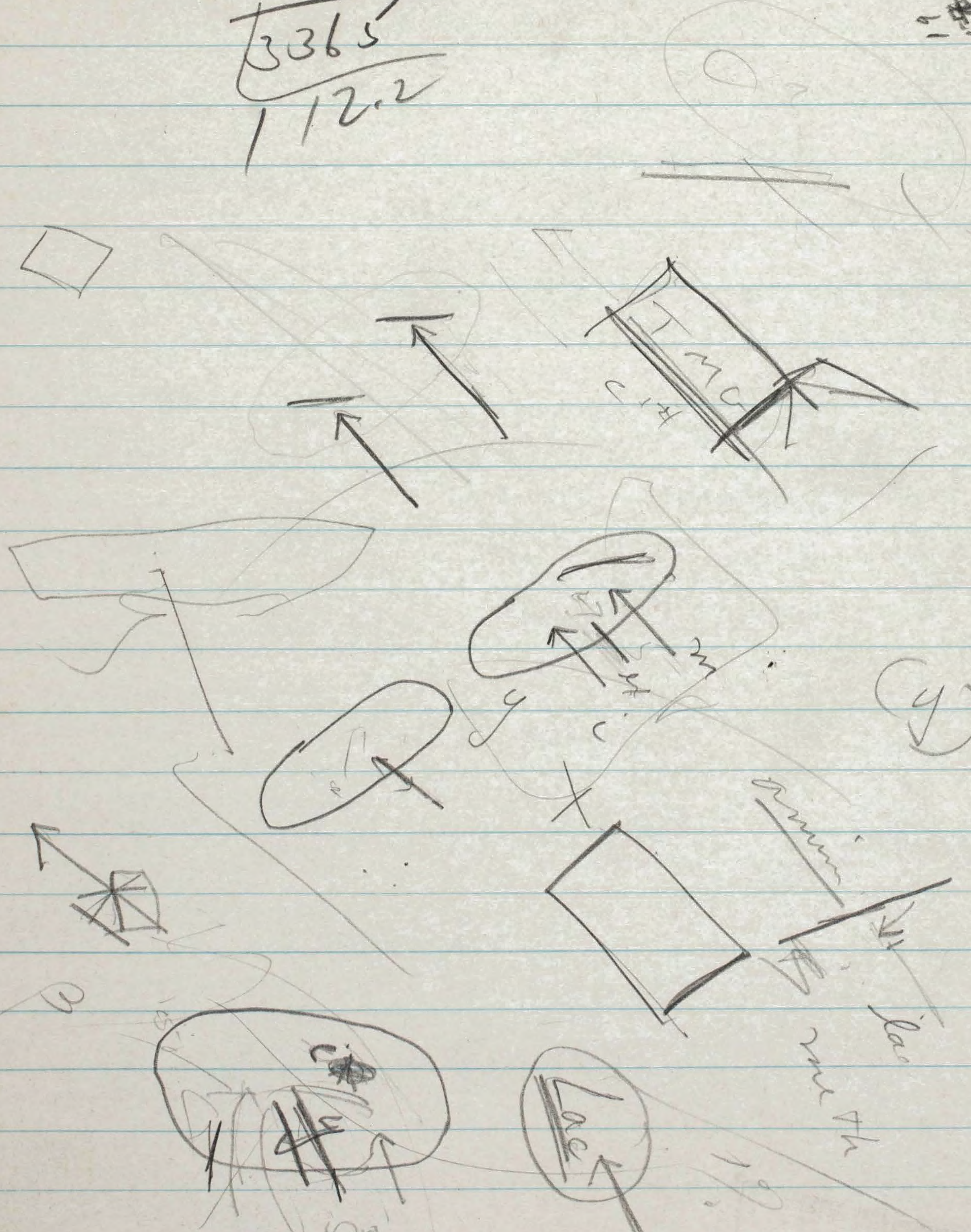
$$= \left(\beta - \frac{1}{\tau}\right) i_\infty\left(1 - e^{-(\beta - \frac{1}{\tau})t}\right) - i_\infty(\,)$$

$$= \left(\beta - \frac{1}{\tau}\right) i - \left(\beta - \frac{1}{\tau}\right) i_\infty$$

$$= (i_\infty - i)\left(\beta - \frac{1}{\tau}\right) = \beta(i_\infty - i) - \frac{i_\infty - i}{\tau}$$

3)207
69

96.8
125.2
114.0
3)336.5
112.2



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