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Theoretical Question 3: Birthday Balloon

## ANSWER FORM

a. $\sigma_{L} / \sigma_{t}=\square$
b. Expression for $P(V)$ from Hooke's law:

$$
P(V)=\square
$$

Graph of $P-P_{0}$ as a function of $V$ for Hooke's law:

Maximal inflation pressure from Hooke's law:

$$
P_{\max }=\square
$$

c. Graph of $P-P_{0}$ as a function of $V$ for realistic rubber and uniform inflation:
$\square$
$\qquad$

Value of $P-P_{0}$ at $r=0.5 \mathrm{~cm}$ : $\square$
Value of $P-P_{0}$ at $r=2.5 \mathrm{~cm}$ : $\square$
d. $P_{c}=$ $\square$
$\square$

e. Graph of $P-P_{0}$ as a function of $V$ taking the split into account:
$\square$
$\square$
f. $\quad L_{\text {thin }}(V)=$
$\square$

