5A 1. Initial cash flow, number of payments, growth rate +5/5/5
   - 2 points earned for extra wrong answers
   +5 2. none
   +5 3. none
   +5 4. depreciation
   +12/13 5. Increase early and reduce later
   +15 6. Weight on low standard deviation asset
   +5/5/5 7. Weight on stock, levered return on equity, return on debt
   +5/5/5 8. Stock price, volatility of returns, time to expiration

4. \( P_0 = \frac{0.7^{+3}}{0.87493(1+0.06)} + 3 \)

10. \( E(\sigma) \)

9. \( L = 85 + \frac{200}{105^3} \approx 172.7675 \)

CF:

<table>
<thead>
<tr>
<th>Trans</th>
<th>CF0</th>
<th>CFO</th>
<th>150</th>
<th>300</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key Squo bond</td>
<td>-250</td>
<td></td>
<td></td>
<td>+300</td>
</tr>
<tr>
<td>Short Cisco bond</td>
<td>+172.7675</td>
<td>+150</td>
<td></td>
<td>-200</td>
</tr>
<tr>
<td>Short Cisco stock</td>
<td>+85</td>
<td></td>
<td></td>
<td>-100</td>
</tr>
<tr>
<td>Total</td>
<td>+17.7675</td>
<td></td>
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</tr>
</tbody>
</table>

p 1. 250 = 85 + \frac{200}{105^3} 

\[ \approx 252.52 \]
\[ \text{P} = \frac{\ln \left( \frac{5}{\text{PUC} \times \text{PUC}} \right)}{0.45 \sqrt{1}} + \frac{8}{(1 + r(\text{r}))^{36}} \left( 1 - l - \frac{l - 0.2}{1 + r(\text{r})} \right) \left( \frac{1}{1 + r(\text{r})} \right)^{1/2} - \frac{1}{(1 + r(\text{r}))^{0.012}} \]

\[ \text{PUC} = \frac{250}{(1.0015)^{15}} \]

\[ A_2 = A_1 - 0.45 \sqrt{1} \]

\[ P = \text{PVUC} \left( 1 - \text{IVD}^2 \right) - S \left( 1 - \text{IVD} \right) \]

\[ (NL) = \text{look up on table or with Excel} \]
\[
\begin{align*}
\Delta u &= \frac{9-2}{59-52} = +1 + 6 \\
B_u &= \frac{2 - (1)(52)}{1.015} = -49.2411 + 6 \\
C_u &= 1(55) - (49.2411) - 5.7389 + 6 \\
\delta d &= \frac{2-0}{52-5} = +0.2285 > 16 \\
B_d &= \frac{0 - (2285)(48)}{1.015} = -12.6671 + 6 \\
C_d &= (2285)(48) - 12.6671 = 1.2871 + 6 \\
J &= \frac{5.7389 - 1.0471}{55-48} = +0.6703 + 6 \\
B &= \frac{1.0471 - 1.6703(48)}{1.015} = -30.6650 + 6 \\
C &= 51(1.6703) - 30.6650 = 3.5179 \\
\text{sell 13846 shares} &= (1.6703 - 2.285) + 6 \\
\text{buy to cover bonds worth} &= 18.4668 = 3846 \times 48 \\
&= -12.6671 + 30.6650(1.015)
\end{align*}
\]
5. a. $500 - 950: T^2 = 1 - \left( \frac{1 - (1.25 \times 35)}{1 - 1.18} \right) = +0.05366$

$750 - 950: T^2 = 1 - \left( \frac{1 - 1.25 \times 35}{1 - 1.18} \right) = -0.04466$

optimal interest = $T^2_5 \geq \chi^2$

6. lower $\chi^2$

6. $\beta = \frac{\text{cov}_{\hat{\beta}, \hat{\sigma}}}{\text{var}_{\hat{\beta}}}$

$\text{cov}_{\hat{\beta}, \hat{\sigma}} = \frac{1}{3} \left( \begin{array}{c}
\begin{array}{c}
(\hat{\beta} - 1)^2 + (\hat{\sigma} - 5)^2 + (\hat{\sigma} - 7)^2
\end{array}
\end{array} \right)$

$\text{var}_{\hat{\beta}} = \frac{1}{3} \left( (\hat{\beta} - 1)^2 + (\hat{\sigma} - 5)^2 + (\hat{\sigma} - 7)^2 + (\hat{\sigma} - 9)^2 \right)$

$\hat{\beta} = \frac{1}{4} (5\hat{\beta} + \hat{\sigma} + \hat{\sigma} + \hat{\sigma})$

$\hat{\sigma} = \frac{1}{4} (2\hat{\sigma} + \hat{\beta} + \hat{\beta} + \hat{\beta})$

$\text{var}_{\hat{\beta}} = \frac{1}{3} \left( (\hat{\beta} - 1)^2 + (\hat{\sigma} - 5)^2 + (\hat{\sigma} - 7)^2 + (\hat{\sigma} - 9)^2 \right)$

$\hat{\beta} = Z_{.2} + \beta (7 - Z_{.2})$