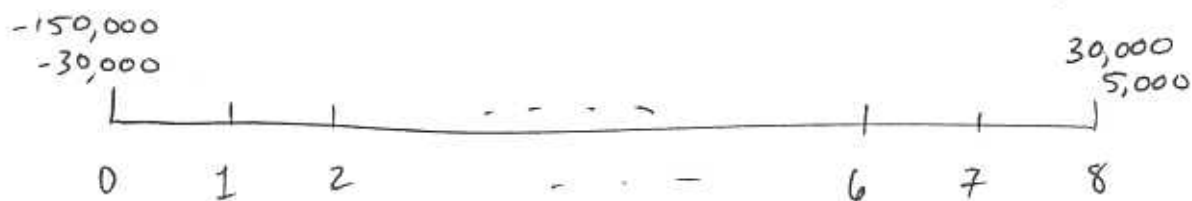


So each share costs \$43.43, so the total number of shares

$$\text{is } \frac{\$100,000}{\$43.43/\text{share}} = 2,302 \text{ shares}$$

4) Widget problem.

$$\text{Money saved per year} = 200,000 \cdot 2 - 200,000 \cdot 1.5 = \$100,000$$



Cash flows: -150,000 in date 0 - buying equipment  
- 30,000 date 0, +30,000 - working capital

+  $\frac{150,000}{8} \cdot .35$  years 1-8 tax shield

100,000 (.65) - After tax savings (we pay taxes on the saved costs)  
(years 1-8)

5000(1-T<sub>c</sub>): selling equipment at date 8

$$\text{NPV project} = -150,000 - 30,000 + \frac{30,000}{1.15^8} + 100,000 \cdot .65 \cdot A_{0.15}^8$$

$$+ \frac{5000(.65)}{1.15^8} + \frac{150,000}{8} (.35) A_{0.15}^8 \quad \left( \text{with } A_{0.15}^8 = \left[ \frac{1}{.15} - \frac{1}{.15(1.15)^8} \right] \right)$$

$$= -180,000 + 9807.127 + 291674.5 + 1062.438 + 29448.125$$

$$= 151,922.19. \quad \text{This is positive, so the CEO is}$$

right, this project should be undertaken.