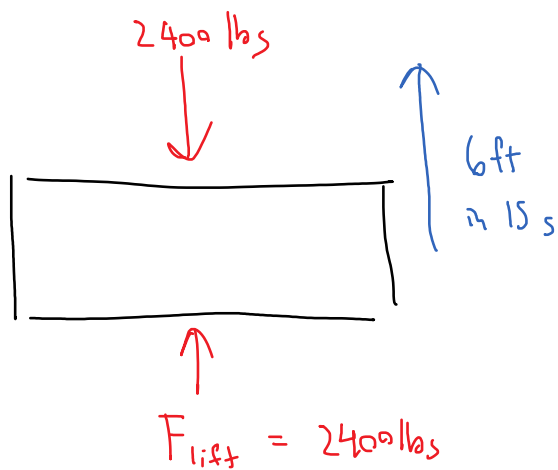


## Problem 2

Your car broke down and now needs to be repaired. How much power is required for a lift to raise your 1.2 ton car 6 ft off the ground in 15 seconds?



$$W = \cancel{\Delta KE} + \Delta PE$$

$$W = m g \Delta h = (2400 \text{ lbs})(6 \text{ ft})$$

$$W = 14400 \text{ ft lbs}$$

$$P = \frac{W}{t} = \left[ \frac{14400 \text{ ft lbs}}{15 \text{ s}} = 960 \frac{\text{ft lbs}}{\text{s}} = 1.75 \text{ hp} \right]$$