Ch. 7 - 42 :-

[redacted]

$$z_1 + h_A - h_L = \frac{p_2}{\gamma} + z_2$$

Known. (convert to lb/ft³)

$$h_A = \frac{p_2}{\gamma} + (z_2 - z_1) + h_L \rightarrow \text{Known}$$

Appendix. ←

Known (212)

[redacted]

$$h_A = \frac{4320}{62.4} + 212 + 15.5 = 296.73$$

$$P_A = (h_A)(\gamma)(Q) = (296.73)(62.4)(40)$$

gal/min → ft³/s

$$P_A = (296.73)(62.4)(0.089)$$

$$= 1647.91$$

40 / 448.83

$Q = 0.089\ ft^3/s$

$$= 1647.91 \left(\frac{1}{550}\right)$$

$$P_A = 2.99 \simeq 3\ hp$$