Corrective Lenses (Refer to Ex. 34.13 & 34.14, pp. 1320-21.)

(a) Hyperopic Eye (Far-sighted)

Near point for this eye is 60.0 cm. Should be at 25 cm.

Needed f is
\[ \frac{1}{f} = \frac{1}{5} + \frac{1}{5'} + \frac{1}{+25cm} - \frac{1}{-60cm} \]

\[ f = 42.8 \text{ cm} = 0.428 \text{ m} \]

Power of lens = \[ \frac{1}{f} = \frac{1}{0.428m} = +2.33 \text{ diopters} \]

(b) Myopic Eye (Near-sighted)

Far point for this eye is 60.0 cm. Should be at \( \infty \).

Needed f is
\[ \frac{1}{f} = \frac{1}{\infty} + \frac{1}{-60cm} \]

\[ f = -60cm = -0.600 \text{ m} \]

Power of lens = \[ \frac{1}{f} = \frac{1}{-0.600} = -1.67 \text{ diopters} \]

2pts.