P # B

Ch 22 - Worksheet

a) f is constant

$$\boxed{f_2 = f_0}$$

b) f is constant, so $\frac{v_1}{\lambda_1} = \frac{v_2}{\lambda_2}$

$$\frac{v_0}{\lambda_0} = \frac{.8\,v_0}{\lambda_2}$$

$$\boxed{\lambda_2 = .8\,\lambda_0}$$

c) $n = \frac{c}{v}$ so $c = n \cdot v$

c is constant, so $n_1 \cdot v_1 = n_2 \cdot v_2$

$$n_0 \cdot v_0 = n_2 \cdot (.8\,v_0)$$

$$n_2 = \frac{n_0}{.8}$$

$$\boxed{n_2 = 1.25\,n_0}$$