

P # D

Ch 28 - Worksheet

a) For Balmer, $n=3, 4, 5, \dots$

$$R_H = 1.097 \times 10^7 \text{ m}^{-1}$$

$n=7$ for 5th line

$$\frac{1}{\lambda} = R_H \cdot \left(\frac{1}{2^2} - \frac{1}{7^2} \right)$$

$$\lambda_5 = 397 \text{ nm}$$

b) $n=8$ for 6th line

$$\frac{1}{\lambda} = R_H \cdot \left(\frac{1}{2^2} - \frac{1}{8^2} \right)$$

$$\lambda_6 = 389 \text{ nm}$$