

$$\begin{array}{lll}
 R = 100 & r = \frac{100}{450} & = 0.2222 \\
 G = 150 & g = \frac{150}{450} & = 0.3333 \\
 B = 200 & b = \frac{200}{450} & = 0.4444
 \end{array}$$

$$H = \begin{cases} \theta & \text{if } b \leq g \\ 2\pi - \theta & \text{if } b > g \end{cases}$$

$$\theta = \cos^{-1} \left\{ \frac{0.5 [(r-g) + (r-b)]}{[(r-g)^2 + (r-b)(g-b)]^{1/2}} \right\}$$

$$= \cos^{-1} \left[ \frac{0.5 [(0.2222 - 0.3333) + (0.2222 - 0.4444)]}{[(0.2222 - 0.3333)^2 + (0.2222 - 0.4444)(0.3333 - 0.4444)]^{1/2}} \right]$$

$$= \cos^{-1} \left[ \frac{0.5 (-0.1111 - 0.2222)}{[(-0.1111)^2 + (-0.2222)(-0.1111)]^{1/2}} \right]$$

$$\theta = \cos^{-1} \left[ \frac{0.5 \times -0.3333}{(0.0123 + 0.0247)^{1/2}} \right]$$

$$= \cos^{-1} \left[ \frac{-0.1667}{0.1924} \right] = \cos^{-1} (-0.8664)$$

$$= 150^\circ$$

$$\theta = 150^\circ$$

$$H = 2\pi - \theta \quad \text{for } b > g$$

$$= (2 \times 180) - 150$$

$$= 360 - 150 = \underline{\underline{210}}$$