

TR-8A ANSWERS

SECTION 8-1

$$\textcircled{1.} \quad h = km \rightarrow \frac{h}{m} = k \quad \frac{\cancel{11}}{\cancel{35} \cdot 5} = \frac{11}{m}$$

$$\boxed{m = 55}$$

$$\textcircled{2.} \quad S' = km \rightarrow \frac{S'}{m} = k \quad \frac{13}{\cancel{100} \cdot 25} = \frac{S'}{\cancel{28} \cdot 7}$$

$$25S' = 91$$

$$\boxed{S' = \frac{91}{25} \text{ cm}}$$

$$\textcircled{3.} \quad C = kS \quad \frac{2232}{\cancel{124,000}} = \frac{C}{\cancel{160,000}}$$

$$124C = 160(2232)$$

$$\boxed{C = \$2880}$$

SECTION 8-2

$$\textcircled{4.} \quad yx^2 = k \quad \cancel{2}(12)^2 = \cancel{8}x^2$$

$$144 = 4x^2$$

$$36 = x^2$$

$$\boxed{x = \pm 6}$$

$$\textcircled{5.} \quad I = kpr \rightarrow \frac{I}{pr} = k \quad \frac{14}{(100)(0.07)} = \frac{48}{p(0.08)}$$

$$\frac{14}{7} = \frac{48}{0.08p}$$

$$\frac{2}{1} = \frac{48}{0.08p}$$

$$0.16p = 48$$

$$\boxed{p = 300}$$

$$\textcircled{6.} \quad I \cdot d^2 = K \quad 30(6.4)^2 = I(16)^2$$

$$1228.8 = 256 I$$

$$I = 4.8 \text{ lux}$$

$$\textcircled{7.} \quad S = \frac{K l}{d^2} \quad \rightarrow \quad \frac{S d^2}{l} = K$$

$$\frac{S_1 d_1^2}{l_1} = \frac{S_2 d_2^2}{l_2}$$

$$\text{Let } S_1 = 1, d_1 = 1, l_1 = 1$$

$$d_2 = 2, l_2 = 2$$

$$1 = \frac{S_2 (2)^2}{2}$$

$$1 = S_2 (2)$$

$$\therefore S_2 = \frac{1}{2}$$

The stretch is cut in half