



x = length of lamp to shadow tip

d = length from the street lamp to the person

$$\frac{12}{x} = \frac{5.5}{(x-d)}$$

$$5.5x = 12x - 12d$$

$$+12d - 5.5x = -5.5x + 12d$$

$$6.5x = 12d$$

$$6.5 \frac{dx}{dt} = 12 \frac{dd}{dt}$$

$$\boxed{\frac{dx}{dt} = \frac{12 \left(\frac{dd}{dt} \right)}{6.5}}$$