The shadow length L can be written as: $\frac{L}{20}=\frac{2}{x}$, where x is the distance from woman to the spotlight.

So, we have:

$$L=\frac{2\cdot 20}{x}=\frac{40}{x}$$

$$\frac{dL}{dx}=\left(\frac{40}{x}\right)'=-\frac{40}{x^2}$$

When woman is 6 meters from the wall, she's 14 meters from the spotlight, So, we will have that the shadow length change with the speed: $\frac{dL}{dx}=\left(-\frac{40}{x^2}\right)_{x=14}=-\frac{40}{14^2}$. The speed of the woman is: $\frac{dx}{dt}=0.8\left(\frac{m}{s}\right)$. So, we will have that the speed if the shadow changed is:

$$\frac{dL}{dt}=\frac{dL}{dx}\cdot\frac{dx}{dt}=-\frac{40}{14^2}\cdot 0.8=-0.163\left(\frac{m}{s}\right).$$

So, we can say that the shadow length will decrease with speed 0.163 meters in a second.

Answer: the shadow length will decrease with speed 0.163 m/s.