9. $A = 2000\left(1 + \frac{r}{4}\right)^{40}$

$$\frac{dA}{dr} = 2000 \cdot 40\left(1 + \frac{r}{4}\right)^{39} \cdot \frac{d}{dr}\left(1 + \frac{r}{4}\right)$$

$$= 80{,}000\left(1 + \frac{r}{4}\right)^{39} \cdot \frac{1}{4}$$

$$\frac{dA}{dr} = \boxed{20{,}000\left(1 + \frac{r}{4}\right)^{39}}$$

$r = 0.02$

$$\frac{dA}{dr} = 2000\left(1 + \frac{.02}{4}\right)^{39}$$

$= 24294.41$

$r = 0.10$

$$\frac{dA}{dr} = 2000\left(1 + \frac{.10}{4}\right)^{39}$$

$= 52391.49$

$r = 0.15$

$$\frac{dA}{dr} = 2000\left(1 + \frac{.15}{4}\right)^{39}$$

$= 84055.49$