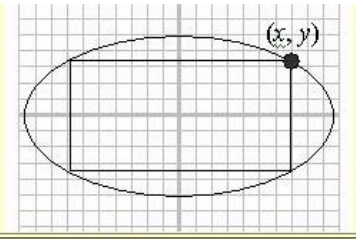
ELİPS İÇİNE ÇİZİLEBİLECEK ALANI EN BÜYÜK DİKDÖRTGEN



$$\frac{x^2}{a^2}+\frac{y^2}{b^2}=1$$

$$\frac{y^2}{b^2}=1-\frac{x^2}{a^2}$$

$$y^2=b^2\left(1-\frac{x^2}{a^2}\right)$$

$$y=\sqrt{b^2\left(1-\frac{x^2}{a^2}\right)}$$

$$y=b\sqrt{1-\frac{x^2}{a^2}}$$

$$A_R=2x\cdot 2y$$

$$A_R=2x\cdot 2b\sqrt{1-\frac{x^2}{a^2}}$$

$$=2x\cdot 2b\sqrt{\frac{a^2-x^2}{a^2}}$$

$$=2x\cdot 2b\frac{\sqrt{a^2-x^2}}{a}$$

$$=\frac{2x\cdot 2b}{1}\frac{\sqrt{a^2-x^2}}{a}$$

$$=\frac{4xb}{a}\sqrt{a^2-x^2}$$

$$\frac{4b}{a}x\sqrt{a^2-x^2}$$

$$A_R=\frac{4b}{a}x\sqrt{a^2-x^2}$$

$$A_R'=\frac{4b}{a}x\cdot\frac{1}{2}\left(a^2-x^2\right)^{-1/2}(-2x)+\frac{4b}{a}\left(a^2-x^2\right)^{1/2}$$

$$=-\frac{4b}{a}x^2\cdot\frac{1}{2}\left(a^2-x^2\right)^{-1/2}+\frac{4b}{a}\left(a^2-x^2\right)^{1/2}$$

$$0=-\frac{4b}{a}x^2\cdot\frac{1}{2}\left(a^2-x^2\right)^{-1/2}+\frac{4b}{a}\left(a^2-x^2\right)^{1/2}$$

$$0=-\frac{4b}{a}x^2+\frac{4b}{a}\left(a^2-x^2\right)$$

$$0=-\frac{4b}{a}x^2+\frac{4b}{a}\left(a^2-x^2\right)$$

$$0=-\frac{4b}{a}x^2+4ab-\frac{4b}{a}x^2$$

$$0=-\frac{8b}{a}x^2+4ab$$

$$-4ab=-\frac{8b}{a}x^2$$

$$\frac{a^2}{2}=x^2$$

$$\frac{a}{\sqrt{2}}=x$$

$$A_R=\frac{4b}{a}x\sqrt{a^2-x^2}$$

$$=\frac{4b}{a}\cdot\frac{a}{\sqrt{2}}\sqrt{a^2-\frac{a^2}{2}}$$

$$=\frac{4b}{\sqrt{2}}\cdot\sqrt{\frac{a^2}{2}}$$

$$=\frac{4b}{\sqrt{2}}\cdot\frac{a}{\sqrt{2}}=\frac{4ab}{2}=2ab$$

A.E