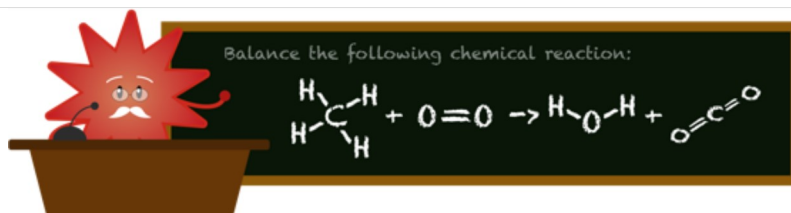


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$x^2+y^2>\sqrt{((0.996x+0.089)^2+0.992016y^2)}\sqrt{x^2+y^2}$

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Examples

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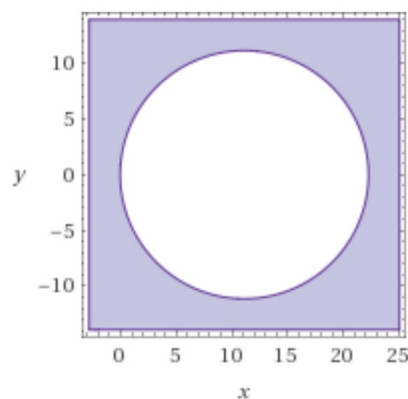
Input interpretation:

$$x^2 + y^2 > \sqrt{(0.996x + 0.089)^2 + 0.992016y^2} \sqrt{x^2 + y^2}$$

Result:

$$x^2 + y^2 > \sqrt{(0.996x + 0.089)^2 + 0.992016y^2} \sqrt{x^2 + y^2}$$

Inequality plot:



Alternate form:

$$\sqrt{x^2 + y^2} \left(\sqrt{x^2 + \frac{89x}{498} + y^2 + \frac{7921}{992016}} - \frac{250}{249} \sqrt{x^2 + y^2} \right) < 0$$

Solutions:

Approximate forms

$$x > \frac{89}{4}$$

$$x < -\frac{89}{1996}$$

$$-\frac{89}{1996} \leq x \leq \frac{89}{4}, \quad y > \frac{\sqrt{-7984x^2 + 177288x + 7921}}{249}$$

$$-\frac{89}{1996} \leq x \leq \frac{89}{4}, \quad y < -\frac{\sqrt{-7984x^2 + 177288x + 7921}}{4\sqrt{499}}$$

Interval notation:

$$\left(\frac{89}{4}, \infty\right)$$

$$\left(-\infty, -\frac{89}{1996}\right)$$

$$\left[-\frac{89}{1996}, \frac{89}{4}\right]$$

$$\left(\frac{\sqrt{-7984x^2 + 177288x + 7921}}{4\sqrt{499}}, \infty\right)$$

$$\left[-\frac{89}{1996}, \frac{89}{4}\right]$$

$$\left(-\infty, -\frac{\sqrt{-7984x^2 + 177288x + 7921}}{4\sqrt{499}}\right)$$

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Related Queries:

$\Rightarrow \frac{d}{dx} ((x^2 + y(x)^2) - \sqrt{(0.996x + 0.089)^2 + 0.992016y^2})$

$\Rightarrow \text{solve } (x^2 + y^2) - \sqrt{(0.996x + 0.089)^2 + 0.992016y^2}$

$\Rightarrow w = z^2 \text{ vs } w = z^{1/2}$

$\Rightarrow \frac{d}{dy} ((x(y)^2 + y^2) - \sqrt{(0.996x(y) + 0.089)^2 + 0.992016y^2})$

$\Rightarrow \text{maximize } (x^2 + y^2) - \sqrt{(0.996x + 0.089)^2 + 0.992016y^2}$



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