

아폴로니우스의 원

(Circle of Apollonius)

Circle of Apollonius

▶ Start

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•
 $A(x_1, y_1)$

Circle of Apollonius

▶ Start



Circle of Apollonius

▶ Start

$$\overline{AP} : \overline{BP} = 1 : r$$

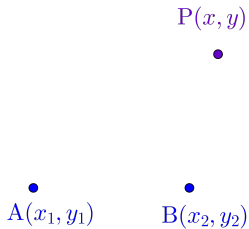
•
 $A(x_1, y_1)$

•
 $B(x_2, y_2)$

Circle of Apollonius

▶ Start

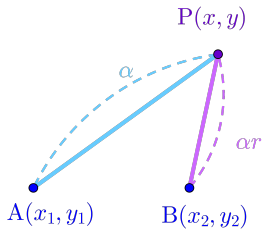
$$\overline{AP} : \overline{BP} = 1 : r$$



Circle of Apollonius

▶ Start

$$\overline{AP} : \overline{BP} = 1 : r$$

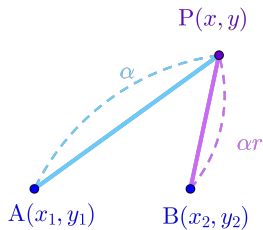


Circle of Apollonius

▶ Start

$$\overline{AP} : \overline{BP} = 1 : r$$

$$\overline{BP} = r\overline{AP}$$

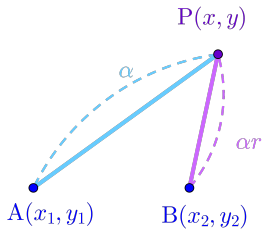


Circle of Apollonius

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$$\overline{AP} : \overline{BP} = 1 : r$$

$$(x - x_2)^2 + (y - y_2)^2 = r^2(x - x_1)^2 + r^2(y - y_1)^2$$

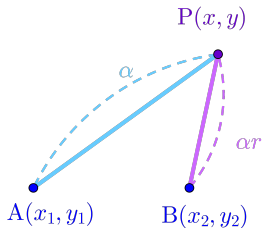


Circle of Apollonius

► Start

$$\overline{AP} : \overline{BP} = 1 : r$$

$$x^2 + y^2 - 2 \frac{x_2 - x_1 r^2}{1 - r^2} x - 2 \frac{y_2 - y_1 r^2}{1 - r^2} y + \frac{x_2^2 + y_2^2 - (x_1^2 + y_1^2) r^2}{1 - r^2} = 0$$

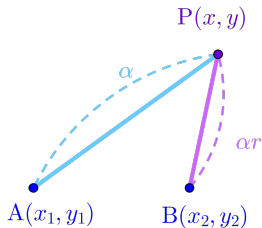


Circle of Apollonius

► Start

$$\overline{AP} : \overline{BP} = 1 : r$$

$$\left(x - \frac{x_2 - x_1 r^2}{1 - r^2}\right)^2 + \left(y - \frac{y_2 - y_1 r^2}{1 - r^2}\right)^2 = \frac{\{(x_1 - x_2)^2 + (y_1 - y_2)^2\} r^2}{(1 - r^2)^2}$$



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$$\overline{AP} : \overline{BP} = 1 : r$$

$$\left(x - \frac{x_2 - x_1 r^2}{1 - r^2}\right)^2 + \left(y - \frac{y_2 - y_1 r^2}{1 - r^2}\right)^2 = \frac{\{(x_1 - x_2)^2 + (y_1 - y_2)^2\} r^2}{(1 - r^2)^2}$$

