20070912-1025 Name Key

Use distance formula to get distance between P_1 and P_2 $\overline{P_1P_2} = \sqrt{(y_2-y_1)^2+(x_2-x_1)^2}$

$P_1(-5,-12)$ $P_2(0,0)$

$$P_1P_2 = \sqrt{(y_2-y_1)^2+(x_2-x_1)^2}$$
$$= \sqrt{(0--12)^2+(0--5)^2}$$
$$= \sqrt{12^2+5^2}$$
$$= \sqrt{144+25}$$
$$= \sqrt{169} = 13$$

$P_1P_2 = 13$

$P_1(-10,-10)$ $P_2(-7,-6)$

$$P_1P_2 = \sqrt{(y_2-y_1)^2+(x_2-x_1)^2}$$
$$= \sqrt{(-6--10)^2+(-7--10)^2}$$
$$= \sqrt{(-6+10)^2+(-7+10)^2}$$
$$= \sqrt{4^2+3^2}$$
$$= \sqrt{16+9} = \sqrt{25} = 5$$

$P_1P_2 = 5$

$P_1(3,4)$ $P_2(6,9)$

$$P_1P_2 = \sqrt{(y_2-y_1)^2+(x_2-x_1)^2}$$
$$= \sqrt{(9-4)^2+(6-3)^2}$$
$$= \sqrt{5^2+3^2}$$
$$= \sqrt{25+9}$$
$$= \sqrt{34}$$

$P_1P_2 = \sqrt{34}$ or $P_1P_2 \approx 5.831$