Example 1: $x_1\ y_1 \quad x_2\ y_2$

Find the distance between (-3,1) and (2,3).

$$d=\sqrt{(x_2-x_1)^2+(y_2-y_1)^2}$$

$$d=\sqrt{(2+(+3))^2+(3-1)^2}$$

$$d=\sqrt{5^2+2^2}$$

$$d=\sqrt{25+4}$$

$$\boxed{d=\sqrt{29} \text{ or } d=5.4}$$

Example 2:

Find the distance between (-2,1) and (2,5).

$$d=\sqrt{(x_2-x_1)^2+(y_2-y_1)^2}$$

$$d=\sqrt{(2-(-2))^2+(5-1)^2}$$

$$d=\sqrt{4^2+4^2}$$

$$d=\sqrt{16+16}$$

$$d=\sqrt{32}$$

$$d=4\sqrt{2}$$

$$d\approx 5.7$$

$$\sqrt{32}$$

$$\sqrt{4\cdot 4\cdot 2}$$

$$\sqrt{16}\cdot\sqrt{2}$$