

Warmup: Systems of Equations 2

Solve by algebra:

$$4(x-2)^2 + 4(y-3)^2 = 16 \quad y+x=3$$

$$4(3-y-2)^2 + 4(y-3)^2 = 16 \quad x=3-y$$

$$4(1-y)(1-y) + 4(y-3)(y-3) = 16$$

$$4(1-2y+y^2) + 4(y^2-6y+9) = 16$$

$$4 - 8y + 4y^2 + 4y^2 - 24y + 36 = 16$$

$$8y^2 - 32y + 40 = 16$$

$$\frac{8y^2 - 32y + 24 = 0}{8}$$

$$y^2 - 4y + 3 = 0$$

$$(y-3)(y-1) = 0$$

$$y = 3, 1$$

$$y+x=3$$

y	x
3	3+x=3 x=0
1	1+x=3 x=2

(0,3)

(2,1)