

12. CENTER: $(6, -6)$ VERTEX: $(10, -6)$

$$h=6 \quad k=-6$$

$$h+a=10$$

$$6+a=10$$

$$a=10-6$$

$$a=4$$

FOCUS: $(7, -6)$

$$h+c=7$$

$$6+c=7$$

$$c=7-6$$

$$c=1$$

LEFT

$$c = \sqrt{a^2 - b^2}$$

$$1 = \sqrt{4^2 - b^2}$$

$$1^2 = (\sqrt{16 - b^2})^2$$

$$1 = 16 - b^2$$

$$b^2 = 16 - 1$$

$$b^2 = 15$$

$$b = \sqrt{15}$$

$$a=4 \quad b=\sqrt{15} \quad c=1 \quad h=6 \quad k=-6$$

$$\frac{(x-h)^2}{a^2} + \frac{(y-k)^2}{b^2} = 1$$

$$\frac{(x-6)^2}{4^2} + \frac{(y-(-6))^2}{(\sqrt{15})^2} = 1$$

$$\frac{(x-6)^2}{16} + \frac{(y+6)^2}{15} = 1$$

