

RIGHT

$$1. \frac{x^2}{9} + \frac{y^2}{16} = 1$$

$$\frac{(x-0)^2}{(3)^2} + \frac{(y-0)^2}{(4)^2} = 1$$

\uparrow $b=3$ \uparrow $a=4$

$k=0$

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

$$c = \sqrt{4^2 - 3^2}$$

$$c = \sqrt{16 - 9}$$

$$c = \sqrt{5}$$

$$a=4 \quad b=3 \quad c=\sqrt{5} \quad h=0 \quad k=0$$

CENTER: $(h, k) = (0, 0)$

MAJOR AXIS PARALLEL TO y-AXIS

LENGTH OF MAJOR AXIS = $2a$
 $= 2(4) = 8$

LENGTH of minor AXIS: $2b$
 $= 2(3) = 6$

FOCI: $(h, k+c)$ $(h, k-c)$
 $(0, 0+\sqrt{5})$ $(0, 0-\sqrt{5})$
 $(0, \sqrt{5})$ $(0, -\sqrt{5})$

VERTICES: $(h, k+a)$ $(h, k-a)$
 $(0, 0+4)$ $(0, 0-4)$
 $(0, 4)$ $(0, -4)$

