Name : _____ Score : _____

Teacher : _____ Date : _____

Properties of Ellipses

Identify the Center, Vertices, Co-Vertices, Foci, Major Axis Length, Minor Axis Length, and Eccentricity.

1) $\frac{(x + 3)^2}{16} + \frac{(y - 6)^2}{9} = 1$

Center =

Vertices =

Co-vertices =

Major Axis Length =

Minor Axis Length =

Foci =

Eccentricity =

2) $\frac{(x + 7)^2}{49} + \frac{y^2}{9} = 1$

Center =

Vertices =

Co-vertices =

Major Axis Length =

Minor Axis Length =

Foci =

Eccentricity =

3) $\frac{(x - 2)^2}{16} + \frac{(y + 2)^2}{144} = 1$

Center =

Vertices =

Co-vertices =

Major Axis Length =

Minor Axis Length =

Foci =

Eccentricity =

4) $\frac{(x + 1)^2}{25} + \frac{(y - 3)^2}{36} = 1$

Center =

Vertices =

Co-vertices =

Major Axis Length =

Minor Axis Length =

Foci =

Eccentricity =

Name : _____ Score : _____

Teacher : _____ Date : _____

Properties of Ellipses

Identify the Center, Vertices, Co-Vertices, Foci, Major Axis Length, Minor Axis Length, and Eccentricity.

1) $\frac{(x + 3)^2}{16} + \frac{(y - 6)^2}{9} = 1$

Center = (-3 , 6)

Vertices = (1 , 6) , (-7 , 6)

Co-vertices = (-3 , 9) , (-3 , 3)

Major Axis Length = 8 units

Minor Axis Length = 6 units

Foci = $(-3 + \sqrt{7}\ , 6)$, $(-3 - \sqrt{7}\ , 6)$

Eccentricity = $\frac{\sqrt{7}}{4}$

2) $\frac{(x + 7)^2}{49} + \frac{y^2}{9} = 1$

Center = (-7 , 0)

Vertices = (0 , 0) , (-14 , 0)

Co-vertices = (-7 , 3) , (-7 , -3)

Major Axis Length = 14 units

Minor Axis Length = 6 units

Foci = $(-7 + 2\sqrt{10}\ , 0)$, $(-7 - 2\sqrt{10}\ , 0)$

Eccentricity = $\frac{2\sqrt{10}}{7}$

3) $\frac{(x - 2)^2}{16} + \frac{(y + 2)^2}{144} = 1$

Center = (2 , -2)

Vertices = (2 , 10) , (2 , -14)

Co-vertices = (6 , -2) , (-2 , -2)

Major Axis Length = 24 units

Minor Axis Length = 8 units

Foci = $(2 , -2 + 8\sqrt{2}\ )$, $(2 , -2 - 8\sqrt{2}\ )$

Eccentricity = $\frac{2\sqrt{2}}{3}$

4) $\frac{(x + 1)^2}{25} + \frac{(y - 3)^2}{36} = 1$

Center = (-1 , 3)

Vertices = (-1 , 9) , (-1 , -3)

Co-vertices = (4 , 3) , (-6 , 3)

Major Axis Length = 12 units

Minor Axis Length = 10 units

Foci = $(-1 , 3 + \sqrt{11}\ )$, $(-1 , 3 - \sqrt{11}\ )$

Eccentricity = $\frac{\sqrt{11}}{6}$