Name : _____ Score : _____

Teacher : _____ Date : _____

Properties of Ellipses

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

1) $\frac{(x - 5)^2}{4} + \frac{(y + 1)^2}{25} = 1$

Center =

Vertices =

Co-vertices =

Major Axis Length =

Minor Axis Length =

Foci =

Eccentricity =

2) $\frac{(x + 7)^2}{144} + \frac{(y + 2)^2}{16} = 1$

Center =

Vertices =

Co-vertices =

Major Axis Length =

Minor Axis Length =

Foci =

Eccentricity =

3) $\frac{(x + 3)^2}{25} + \frac{(y - 1)^2}{9} = 1$

Center =

Vertices =

Co-vertices =

Major Axis Length =

Minor Axis Length =

Foci =

Eccentricity =

4) $\frac{(x - 6)^2}{9} + \frac{(y + 8)^2}{144} = 1$

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) $\frac{(x - 5)^2}{4} + \frac{(y + 1)^2}{25} = 1$

Center = (5 , -1)

Vertices = (5 , 4) , (5 , -6)

Co-vertices = (7 , -1) , (3 , -1)

Major Axis Length = 10 units

Minor Axis Length = 4 units

Foci = $(5 , -1 + \sqrt{21}\ ) , (5 , -1 - \sqrt{21}\ )$

Eccentricity = $\frac{\sqrt{21}}{5}$

2) $\frac{(x + 7)^2}{144} + \frac{(y + 2)^2}{16} = 1$

Center = (-7 , -2)

Vertices = (5 , -2) , (-19 , -2)

Co-vertices = (-7 , 2) , (-7 , -6)

Major Axis Length = 24 units

Minor Axis Length = 8 units

Foci = $(-7 + 8\sqrt{2}\ , -2) , (-7 - 8\sqrt{2}\ , -2)$

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

3) $\frac{(x + 3)^2}{25} + \frac{(y - 1)^2}{9} = 1$

Center = (-3 , 1)

Vertices = (2 , 1) , (-8 , 1)

Co-vertices = (-3 , 4) , (-3 , -2)

Major Axis Length = 10 units

Minor Axis Length = 6 units

Foci = (1 , 1) , (-7 , 1)

Eccentricity = $\frac{4}{5}$

4) $\frac{(x - 6)^2}{9} + \frac{(y + 8)^2}{144} = 1$

Center = (6 , -8)

Vertices = (6 , 4) , (6 , -20)

Co-vertices = (9 , -8) , (3 , -8)

Major Axis Length = 24 units

Minor Axis Length = 6 units

Foci = $(6 , -8 + 3\sqrt{15}\ ) , (6 , -8 - 3\sqrt{15}\ )$

Eccentricity = $\frac{\sqrt{15}}{4}$