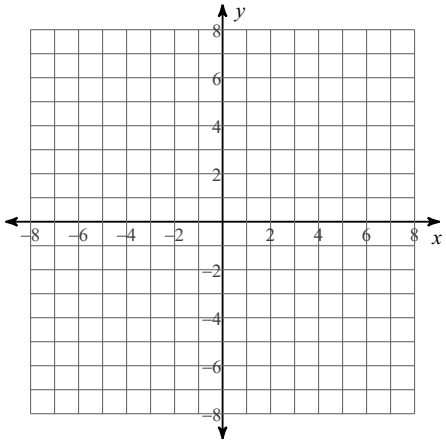
College Readiness Math Name_____

ELLIPSES - Centered at the Origin

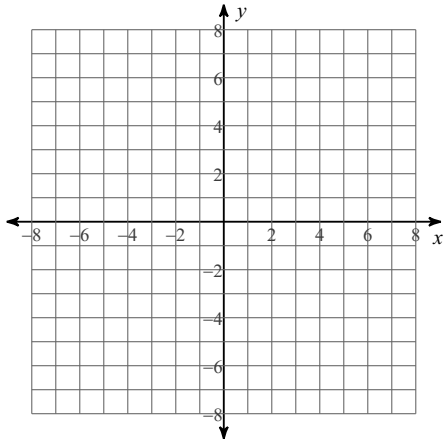
Date_____

Identify the vertices, co-vertices, and foci of each. Then sketch the graph.

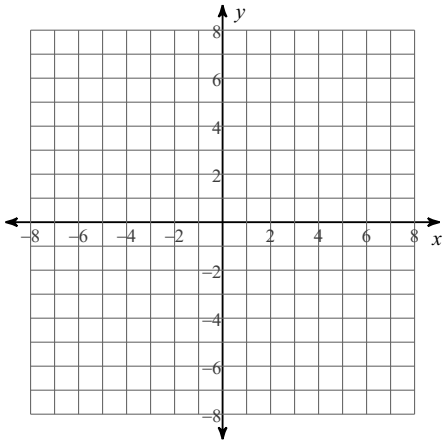
1) $\frac{x^2}{4} + \frac{y^2}{36} = 1$



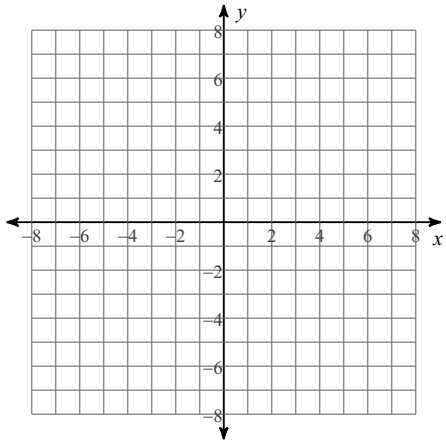
2) $\frac{x^2}{4} + \frac{y^2}{49} = 1$



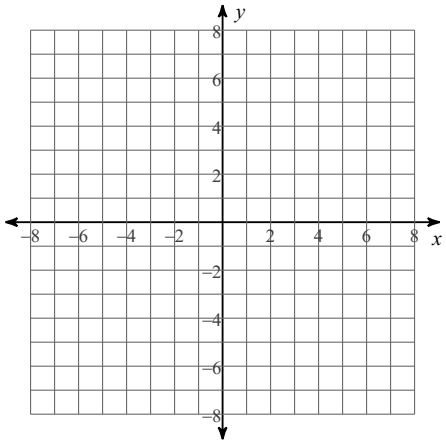
3) $\frac{x^2}{45} + \frac{y^2}{5} = 1$



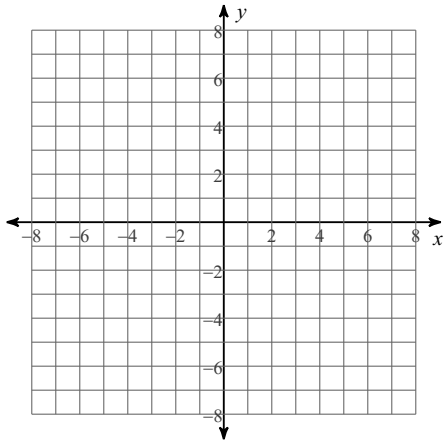
4) $\frac{x^2}{25} + \frac{y^2}{4} = 1$



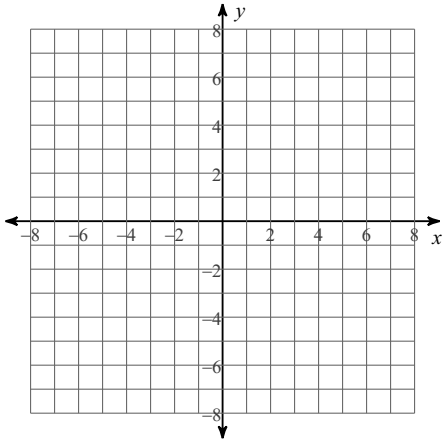
5) $9x^2 + 49y^2 - 441 = 0$



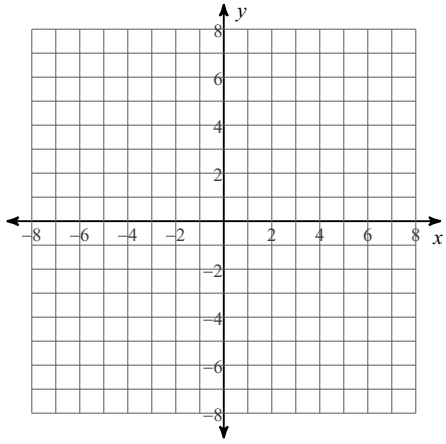
6) $4x^2 + 9y^2 - 144 = 0$



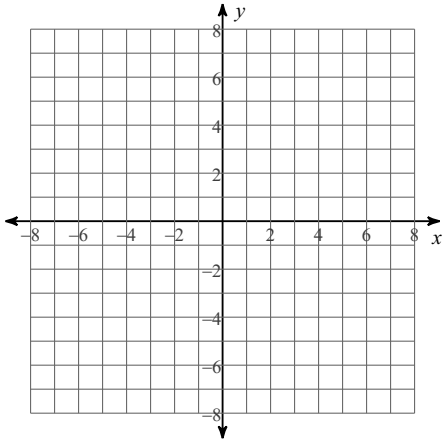
7) $25x^2 + 4y^2 - 100 = 0$



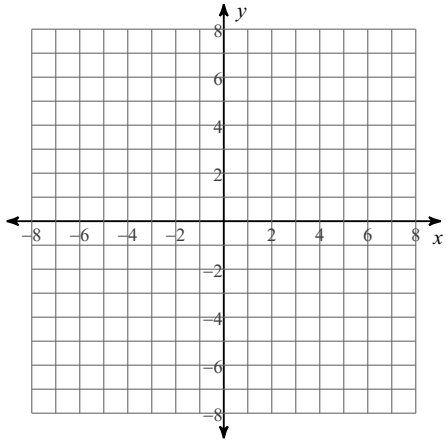
8) $9x^2 + y^2 - 36 = 0$



9) $0 = 9 - 9x^2 - y^2$



10) $0 = 20 - 4y^2 - x^2$



College Readiness Math Name_____

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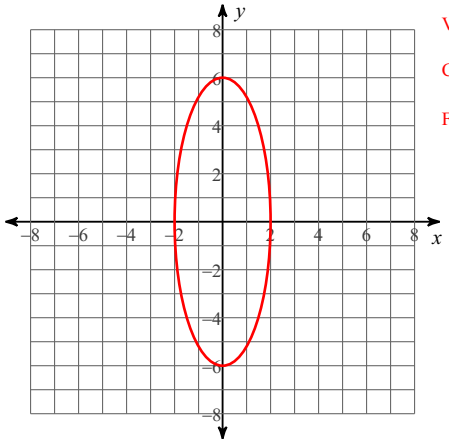
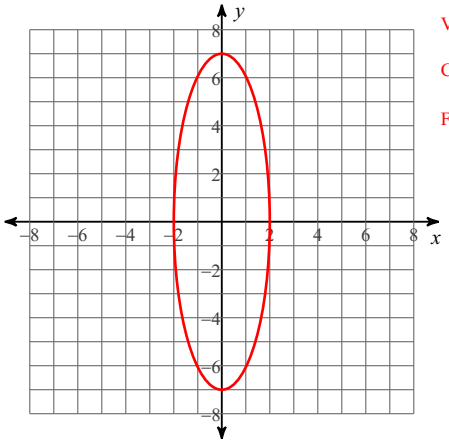
Identify the vertices, co-vertices, and foci of each. Then sketch the graph.

1) $\frac{x^2}{4} + \frac{y^2}{36} = 1$



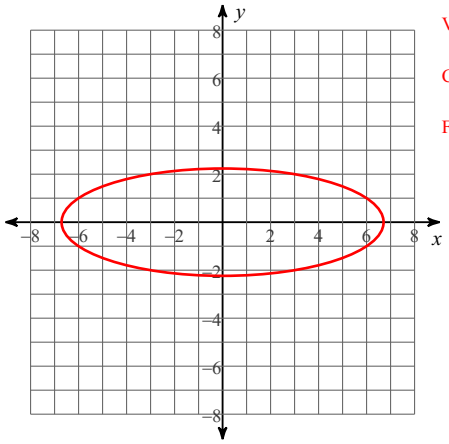
Vertices: $(0, 6)$ $(0, -6)$
Co-vertices: $(2, 0)$ $(-2, 0)$
Foci: $(0, 4\sqrt{2})$ $(0, -4\sqrt{2})$

2) $\frac{x^2}{4} + \frac{y^2}{49} = 1$



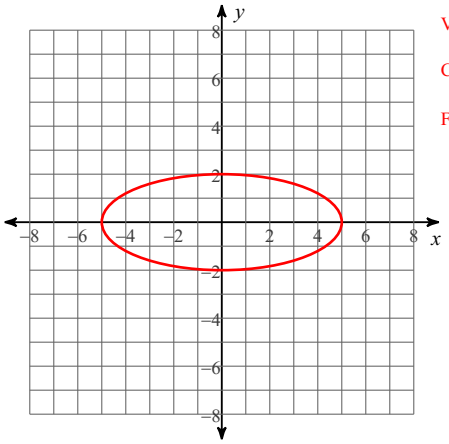
Vertices: $(0, 7)$ $(0, -7)$
Co-vertices: $(2, 0)$ $(-2, 0)$
Foci: $(0, 3\sqrt{5})$ $(0, -3\sqrt{5})$

3) $\frac{x^2}{45} + \frac{y^2}{5} = 1$



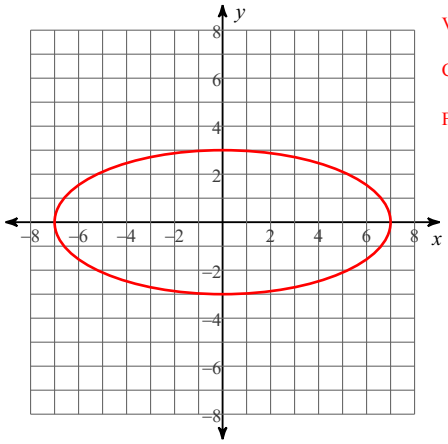
Vertices: $(3\sqrt{5}, 0)$ $(-3\sqrt{5}, 0)$
Co-vertices: $(0, \sqrt{5})$ $(0, -\sqrt{5})$
Foci: $(2\sqrt{10}, 0)$ $(-2\sqrt{10}, 0)$

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



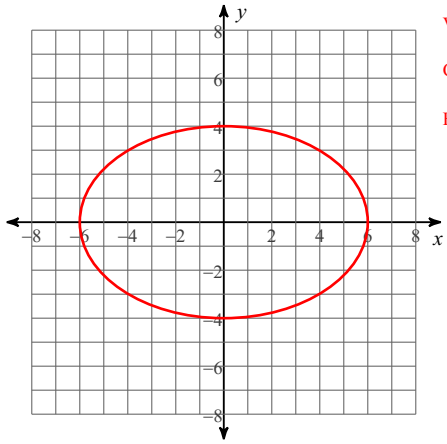
Vertices: $(5, 0)$ $(-5, 0)$
Co-vertices: $(0, 2)$ $(0, -2)$
Foci: $(\sqrt{21}, 0)$ $(-\sqrt{21}, 0)$

5) $9x^2 + 49y^2 - 441 = 0$



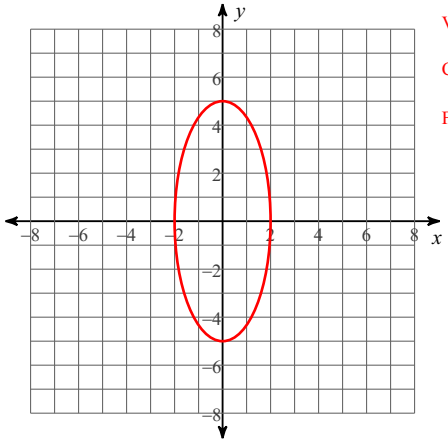
Vertices: $(7, 0)$ $(-7, 0)$
Co-vertices: $(0, 3)$ $(0, -3)$
Foci: $(2\sqrt{10}, 0)$ $(-2\sqrt{10}, 0)$

6) $4x^2 + 9y^2 - 144 = 0$



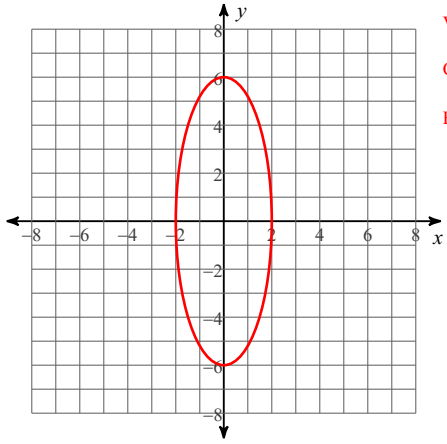
Vertices: $(6, 0)$ $(-6, 0)$
Co-vertices: $(0, 4)$ $(0, -4)$
Foci: $(2\sqrt{5}, 0)$ $(-2\sqrt{5}, 0)$

7) $25x^2 + 4y^2 - 100 = 0$



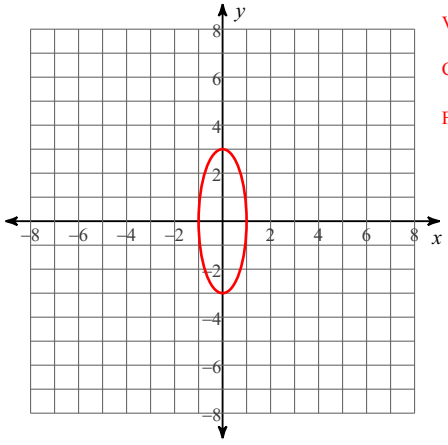
Vertices: $(0, 5)$ $(0, -5)$
Co-vertices: $(2, 0)$ $(-2, 0)$
Foci: $(0, \sqrt{21})$ $(0, -\sqrt{21})$

8) $9x^2 + y^2 - 36 = 0$



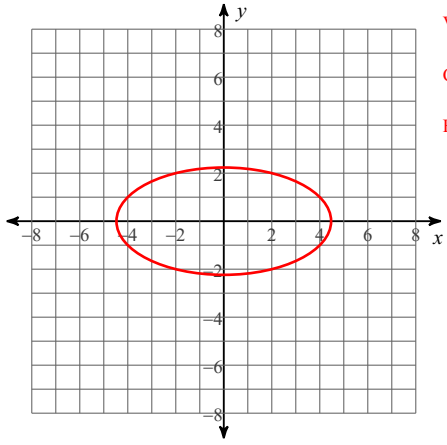
Vertices: $(0, 6)$ $(0, -6)$
Co-vertices: $(2, 0)$ $(-2, 0)$
Foci: $(0, 4\sqrt{2})$ $(0, -4\sqrt{2})$

9) $0 = 9 - 9x^2 - y^2$



Vertices: $(0, 3)$ $(0, -3)$
Co-vertices: $(1, 0)$ $(-1, 0)$
Foci: $(0, 2\sqrt{2})$ $(0, -2\sqrt{2})$

10) $0 = 20 - 4y^2 - x^2$



Vertices: $(2\sqrt{5}, 0)$ $(-2\sqrt{5}, 0)$
Co-vertices: $(0, \sqrt{5})$ $(0, -\sqrt{5})$
Foci: $(\sqrt{15}, 0)$ $(-\sqrt{15}, 0)$