

Given a pair of foci, vertices or co-vertices, and eccentricity of an ellipse. Find the equation of the ellipse and its graph

Given	Solution (graph not included)
1. vertices: $(-3,0), (5,0)$ $e = 0.75$	$\frac{(x-1)^2}{16} + \frac{y^2}{9} = 1$
2. co-vertices: $(7,2), (7,-3)$ $e = 0.6$	$\frac{(x-7)^2}{\frac{625}{64}} + \frac{(y+1)^2}{\frac{25}{4}} = 1$
3. foci: $(5,1), (9,1)$ $e = 0.8$	$\frac{4(x-7)^2}{25} + \frac{4(y-1)^2}{9} = 1$
4. foci: $(2,3), (-5,3)$ $e = 0.2$	$\frac{\left(x + \frac{3}{2}\right)^2}{\frac{1225}{4}} + \frac{(y-3)^2}{294} = 1$
5. co-vertices: $(2,1), (-6,1)$ $e = \frac{1}{3}$	$\frac{(x+2)^2}{16} + \frac{(y-1)^2}{18} = 1$
6. vertices: $(-3,1), (-3,9)$ $e = \frac{2}{5}$	$\frac{25(x+3)^2}{336} + \frac{(y-5)^2}{16} = 1$
7. foci: $(3,-12), (-4,-12)$ $e = \frac{3}{7}$	$\frac{36\left(x + \frac{1}{2}\right)^2}{2401} + \frac{9(y+12)^2}{490} = 1$
8. co-vertices: $(2,5), (-4,5)$ $e = \frac{5}{13}$	$\frac{(x+1)^2}{9} + \frac{(y-5)^2}{\frac{169}{16}} = 1$