VD: Unit 9 Topic 2 Part 2

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: $(7,2),(7,-3)$	$\frac{(x-7)^2}{625} + \frac{(y+1)^2}{25} = 1$
e = 0.6	1
	64 4
3. foci: (5,1), (9,1)	$\frac{\overline{64}}{4} \frac{\overline{4}}{4}$ $\frac{4(x-7)^2}{25} + \frac{4(y-1)^2}{9} = 1$
e = 0.8	
4. foci: (2,3), (-5,3)	$\frac{\left(x+\frac{3}{2}\right)^2}{1225} + \frac{\left(y-3\right)^2}{224} = 1$
e = 0.2	$\left(\begin{array}{c} x+\frac{1}{2} \\ \end{array} \right) \left(\begin{array}{c} y-3 \\ \end{array} \right)^2$
	$\frac{1225}{1225} + \frac{294}{294} = 1$
	4
5. co-vertices: $(2,1), (-6,1)$	$\frac{(x+2)^2}{16} + \frac{(y-1)^2}{12} = 1$
$e = \frac{1}{3}$	$\frac{16}{16} + \frac{18}{18} = 1$
3	
6. vertices: $(-3,1), (-3,9)$	$\frac{25(x+3)^2}{336} + \frac{(y-5)^2}{16} = 1$
$e = \frac{2}{5}$	$\frac{336}{336} + \frac{3}{16} = 1$
7. foci: $(3,-12), (-4,-12)$	$\left(\frac{1}{26}\left(x+1\right)^2\right)$
$e = \frac{3}{7}$	$\left(\frac{30(x+7)}{2}\right) + 9(y+12)^{2} = 1$
7	$\frac{36\left(x+\frac{1}{2}\right)^2}{2401} + \frac{9\left(y+12\right)^2}{490} = 1$
8. co-vertices: $(2,5), (-4,5)$	$\frac{(x+1)^2}{2} + \frac{(y-5)^2}{160} = 1$
$e = \frac{5}{13}$	$\frac{9}{9} + \frac{3}{169} = 1$
13	16