Solutions of Questions from old exams

1 Section 8.1

1. $(y+3)^2 = -16(x-6)$
2. $(x+4)^2 = 4(y-1)$
3. Vertex $\left(-4, \frac{8}{3}\right)$, Focus $\left(-4, -\frac{13}{6}\right)$ and directrix $y = -\frac{19}{6}$
4. $(y+3)^2 = -8(x-2)$
5. a
6. ± 3

2 Section 8.2

1. Center $(3, -1)$, Vertices $\left(\frac{11}{2}, -1\right)$ and $\left(\frac{1}{2}, -1\right)$ and Foci $\left(\frac{6 \pm \sqrt{17}}{2}, -1\right)$
2. $(-1, 0)$ and $(5, 0)$
3. (a) Vertices $(-1, 0)$ and $(-1, 6)$ and Foci $\left(-1, 3 \pm 2\sqrt{2}\right)$
   (b)
4. $\frac{(x+3)^2}{16} + \frac{(y-3)^2}{25} = 1$
5. $\frac{(x-1)^2}{25} + \frac{(y-3)^2}{21} = 1$
6.
7. $\frac{4(x-3)^2}{81} + \frac{(y-1)^2}{9} = 1$
8. 6, 4, $\frac{\sqrt{5}}{3}$
9. 6, 4
10. e
11. c

3 section 8.3

1. $(-1,-4)$ and $(-1,6)$
2. $y=2x-3$ and $y=-2x+1$
3. Vertices $(\pm 3,0)$ and Equations $y=\pm\frac{2}{3}x$
4. c
5. Center $(-3,-2)$ and Vertices $(-3,-5)$ and $(-3,1)$
6. $3y-2x-4=0$ and $3y+2x-8=0$
7. $\pm\frac{4}{3}$
8. Foci $(-3,2)$ and $(5,2)$