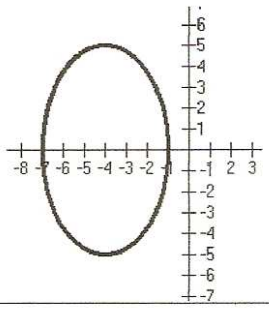
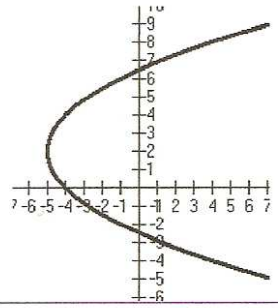
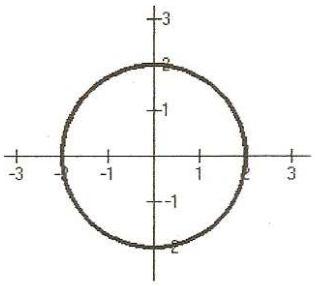
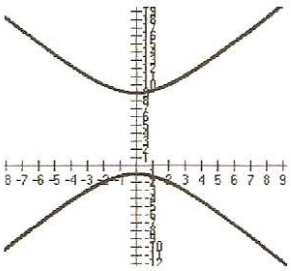
Algebra 2 Worksheet **Name:** Key

Section 10.6 – Identifying Conic Sections **Period:** __

I. Identify the type of conic from its graph.

1. ellipse	2. parabola	3. circle	4. hyperbola
			

II. Identify the conic section that each equation represents.

5. $\frac{(x-8)^2}{5^2}-\frac{y^2}{5^2}=1$ hyperbola	6. $\frac{(x+4)^2}{2^2}+\frac{(y-3)^2}{3^2}=1$ ellipse	7. $(x-1)^2=4(y+9)$ parabola
8. $(x-2)^2+(y+3)^2=13^2$ circle	9. $(y+2)^2=-\frac{1}{2}x$ parabola	10. $x^2+y^2=25$ circle
11. $\frac{y^2}{4}-\frac{(x-1)^2}{9}=1$ hyperbola	12. $2y=(x-3)^2$ parabola	13. $\frac{(x-5)^2}{9}+\frac{(y+6)^2}{4}=1$ ellipse

III. Identify the conic section represented by the equation. & justify your answer by selecting a reason.

14. $4x^2+8x+6y^2-2y=12$ $4x^2+6y^2+8x-2y-12=0$ ellipse b/c C	15. $9x^2+6x=9y^2+24$ $9x^2-9y^2+6x-24=0$ hyperbola b/c B	**REASON CHOICES** A. sum of x^2 and y^2, with coefficients of the squared terms THE SAME B. difference of x^2 and y^2 C. sum of x^2 and y^2, with coefficients of the squared terms DIFFERENT D. only ONE variable (x or y, but not both) is squared
16. $5x^2+3y-2x=8$ parabola b/c D	17. $4x^2-9y^2+6x-5y=15$ $4x^2-9y^2+6x-5y-15=0$ hyperbola b/c B	
18. $.25x^2-36=-.25y^2+2y$ $.25x^2+.25y^2-2y-36=0$ circle b/c A	19. $\frac{1}{2}(10x^2)+6x-(-6y^2)=1$ $5x^2+6x+6y^2=1$ $5x^2+6y^2+6x-1=0$ ellipse b/c C	
20. $(3x)^2+9y^2=81$ $9x^2+9y^2-81=0$ circle b/c A	21. $x-y^2=2x^2-10$ $0=2x^2+y^2-x-10$ ellipse b/c C	