~~CLASSIFYING CONICS W5~~

Review Assorted Conics 1

NAME Key 2019

Classify each conic section as circle, ellipse, parabola, hyperbola or none of these.

Circle 1. $x^2+(y-3)^2=9$

Hyperbola 2. $16x^2-9y^2=144$

Parabola 3. $(x+2)^2=-8(y-3)$

Circle 4. $(x+4)^2+(y-1)^2=7$

hyperbola 5. $\frac{(y-2)^2}{4}-\frac{(x+3)^2}{9}=1$

Circle 6. $x^2-4x+y^2+6y-5=0$

hyperbola 7. $y^2-4x^2+32x-6y+1=80$

parabola 8. $y^2+2y+2x-1=0$

ellipse 9. $\frac{(x-1)^2}{[9]}+\frac{(y-3)^2}{[25]}=1$

hyperbola 10. $\frac{(y-2)^2}{25}-\frac{(x+3)^2}{4}=1$

Circle 11. $x^2+y^2-18x-18y+53=0$

ellipse 12. $4x^2+9y^2+24x-90y=-225$

hyperbola 13. $x^2-4y^2-4x+24y-36=0$

Circle 14. $3x^2+3y^2+18x-6y+3=0$

ellipse 15. $\frac{(x+3)^2}{[9]}+\frac{(y-5)^2}{[4]}=1$

parabola 16. $(y+4)^2=12(x+1)$

hyperbola 17. $9x^2-4y^2+36x-8y-40=0$

ellipse 18. $[9x^2+4y^2]+36x-8y+4=0$

ellipse 19. $9x^2-8y-40=-4y^2+36x$ ← $[9x^2]-36x+[4y^2]-8y=40$

hyperbola 20. $x^2-18x+53=y^2-18y$

$x^2-18x-y^2+18y=-53$

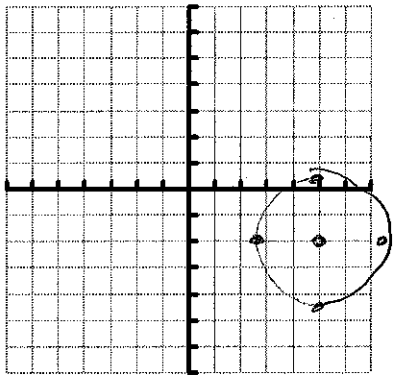
Review Assorted Conics 1 – Part 2
Graphing Circles, Ellipses, Hyperbolas, Parabolas

Name Key

Graph and provide the requested information:

21. $(x-5)^2+(y+2)^2=5$

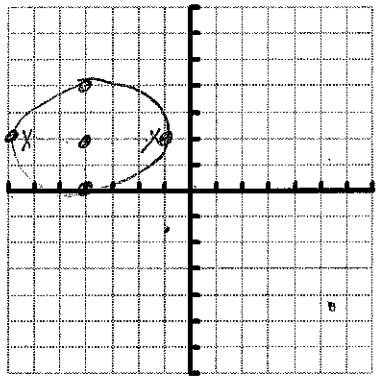
c = (5, −2)
r = $\sqrt{5} \approx 2.2$



22. $\frac{(x+4)^2}{9}+\frac{(y-2)^2}{4}=1$

$c^2=a^2-b^2$
$c^2=9-4$
$c^2=5$
$c=\sqrt{5}$
≈ 2.2

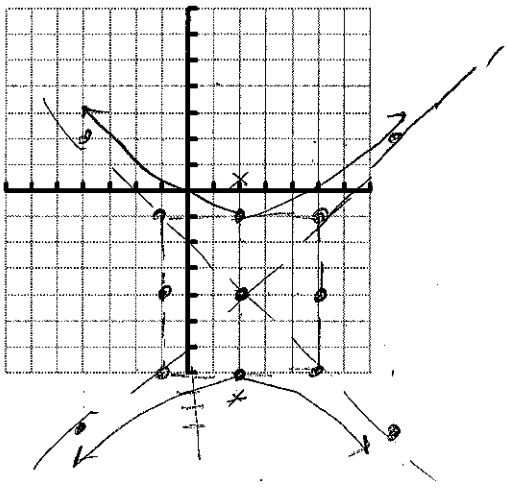
c = (−4, 2)
v = (−1, 2) (−7, 2)
cv = (−4, 4) (−4, 0)
f = $(-4\pm\sqrt{5}, 2)$
major axis length = 6
minor axis length = 4



23. $\frac{(y+4)^2}{9}-\frac{(x-2)^2}{9}=1$

$c^2=a^2+b^2$
$c^2=9+9$
$c^2=18$
$c=3\sqrt{2}$
≈ 4.2

c = (2, −4)
v = (2, −1) (2, −7)
f = $(2, -4\pm 3\sqrt{2})$
asymptotes = $y+4=\pm(x-2)$
length of transverse axis = 6



24. $y^2=-4(x-3)$

$-4=4p$
$-1=p$
$LR=|-4|=4$

v = (3, 0)
f = (2, 0)
directrix = $x=4$
length of LR = 4
ends of LR = (2, ±2)