pg 438 11/29

25-31 odds, 39-42 all, ~~41~~, 48

25. $4x^2+8y^2-8x+48y+44=0$

$4(x^2-2x)+8(y^2+6y)=-44$

$4(x-1)^2+8(y+3)^2=-44+4(1)+8(9)$

$4(x-1)^2+8(y+3)^2=32$

$\frac{(x-1)^2}{8}+\frac{(y+3)^2}{4}=1$ ellipse

27. $y^2-12x+18y+153=0$

$y^2+18y=12x-153$

$(y+9)^2=12x-153+81$

$(y+9)^2=12x-72$

$(y+9)^2=12(x-6)$ parabola

29. $3x^2+y^2-42x+4y+142=0$

$3(x^2-14x)+y^2+4y=-142$

$3(x-7)^2+(y+2)^2=-142+3(49)+4$

$3(x-7)^2+(y+2)^2=9$

$\frac{(x-7)^2}{3}+\frac{(y+2)^2}{9}=1$ ellipse

31. $2x^2+7y^2+24x+84y+310=0$

$2(x^2+12x)+7(y^2+12y)=-310$

$2(x+6)^2+7(y+6)^2=-310+2(36)+7(36)$

$2(x+6)^2+7(y+6)^2=14$

$\frac{(x+6)^2}{7}+\frac{(y+6)^2}{2}=1$ ellipse

39. $a=4,\ b=1,$ center $=(1,3)$

$\frac{(x-1)^2}{16}+\frac{(y-3)^2}{1}=1$

40. $a=5,\ b=3,$ center $=(4,1)$

$\frac{(x-4)^2}{9}+\frac{(y-1)^2}{25}=1$

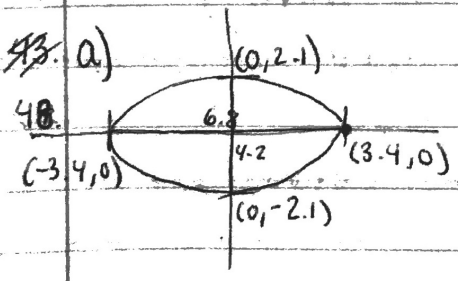
41. $a=7,\ b=4,$ center $=(2,2)$

$\frac{(x-2)^2}{16}+\frac{(y-2)^2}{49}=1$

42. $a=8,\ b=6,$ center $=(-1,5)$

$\frac{(x+1)^2}{64}+\frac{(y-5)^2}{36}=1$

~~43~~. 48. a)



b) $a=3.4,\ b=2.1,$ center $=(0,0)$

$\frac{x^2}{11.56}+\frac{y^2}{4.41}=1$

c) $e=\frac{c}{a}$ $\quad c=\sqrt{11.56-4.41}=2.67$

$=\frac{2.67}{3.4}=0.786$