MA

Name Homework

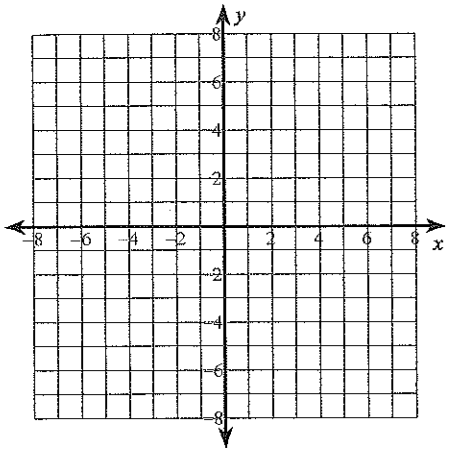
ID: 1

# Ellipse: Day 1

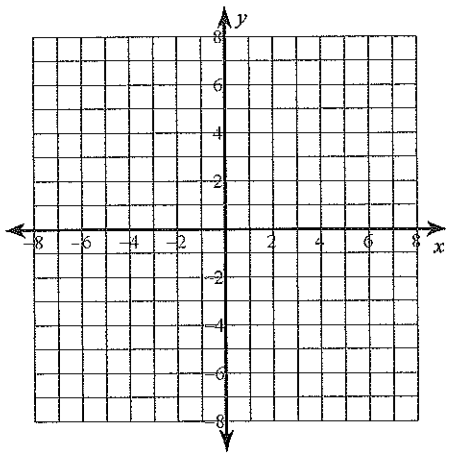
Date _____ Period ____

**Identify the center, vertices, co-vertices, and foci of each. Then sketch the graph.**

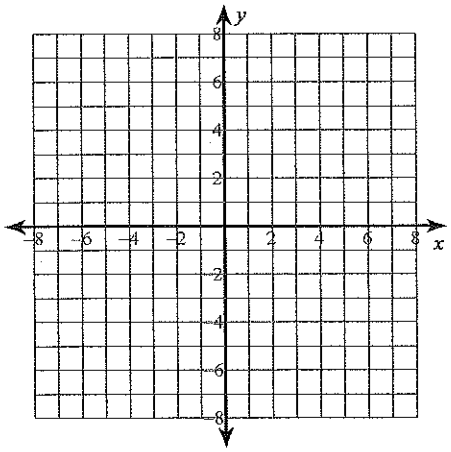
1) $\frac{(x+1)^2}{36} + \frac{(y-2)^2}{16} = 1$



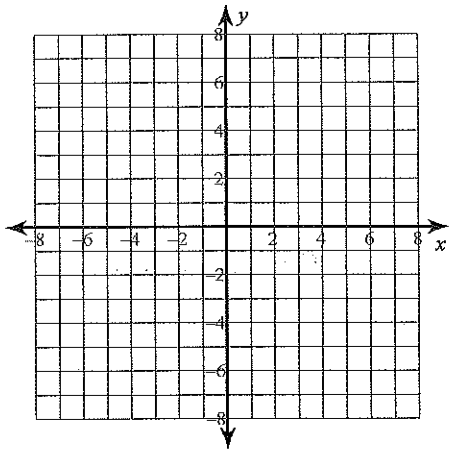

2) $\frac{(x-4)^2}{9} + \frac{(y-1)^2}{16} = 1$



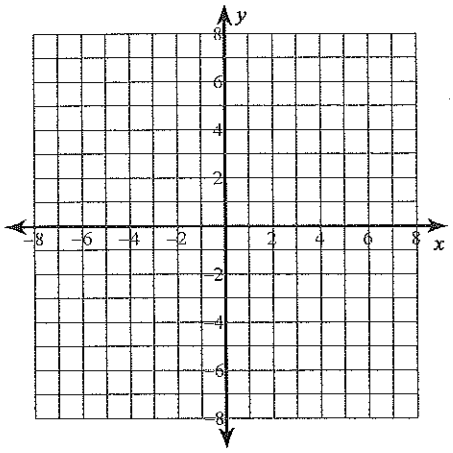

3) $\frac{(x+1)^2}{16} + \frac{(y-1)^2}{9} = 1$



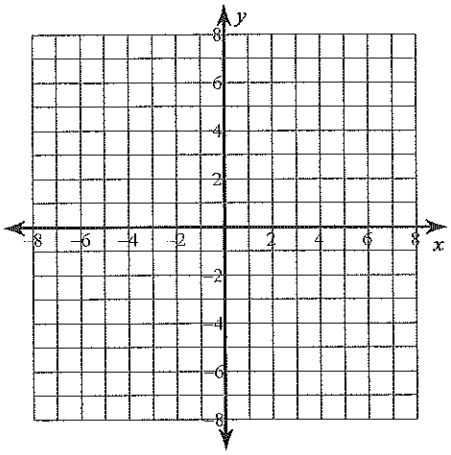

4) $\frac{(x-1)^2}{30} + \frac{(y+2)^2}{15} = 1$



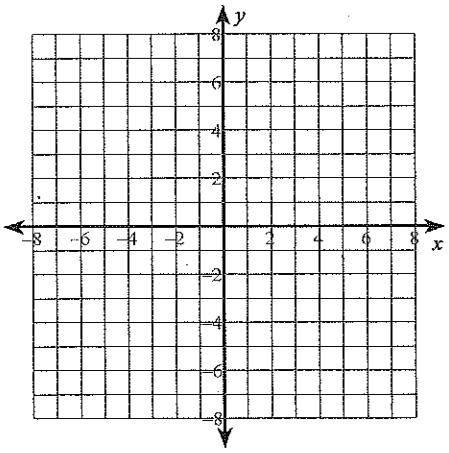
5) $\frac{(x-1)^2}{36} + \frac{(y+1)^2}{9} = 1$



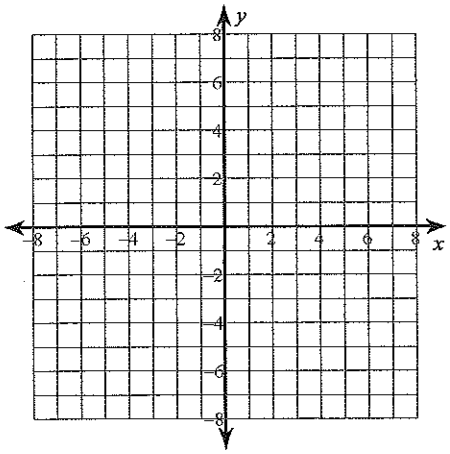
6) $9x^2 + 4y^2 - 90x - 32y + 253 = 0$



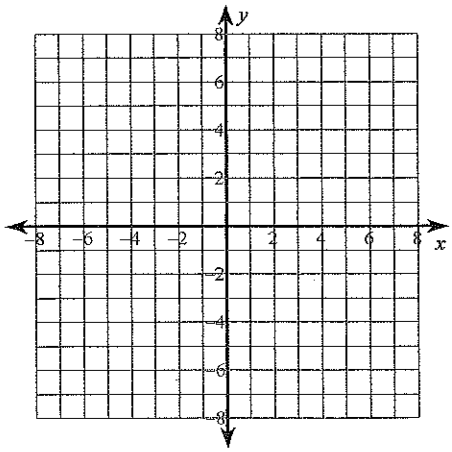
7) $9x^2 + 4y^2 + 18x - 4y - 134 = 0$



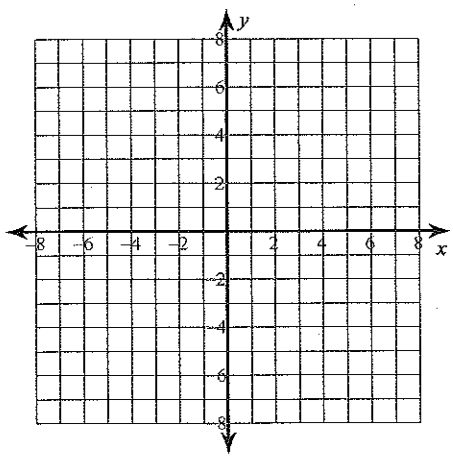
8) $8x^2 + y^2 - 48x + 32 = 0$



9) $49x^2 + y^2 - 196x + 147 = 0$



10) $16x^2 + y^2 + 128x + 6y + 249 = 0$



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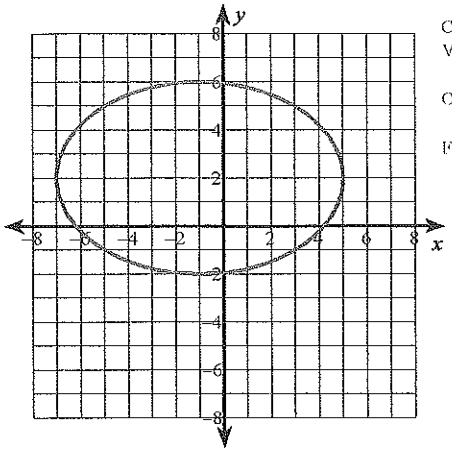
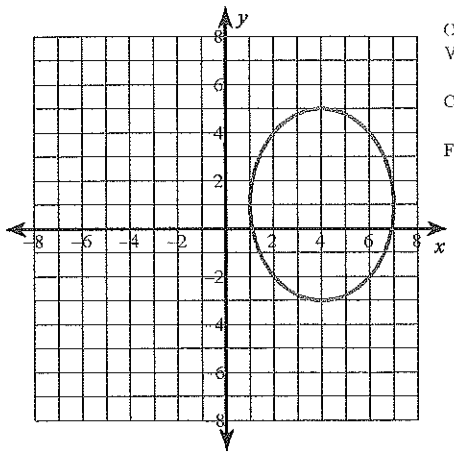
**Identify the center, vertices, co-vertices, and foci of each. Then sketch the graph.**

1) $\frac{(x+1)^2}{36} + \frac{(y-2)^2}{16} = 1$



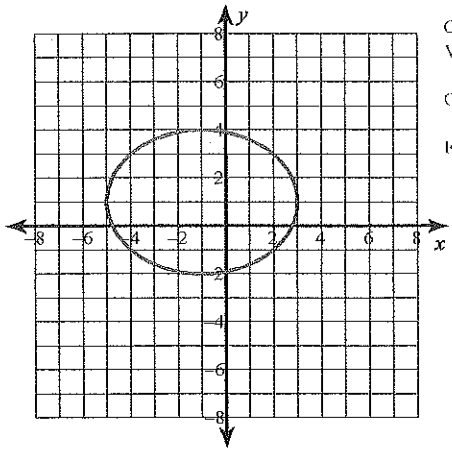
Center: $(-1, 2)$
Vertices: $(5, 2)$
$(-7, 2)$
Co-vertices: $(-1, 6)$
$(-1, -2)$
Foci: $(-1 + 2\sqrt{5}, 2)$
$(-1 - 2\sqrt{5}, 2)$

2) $\frac{(x-4)^2}{9} + \frac{(y-1)^2}{16} = 1$



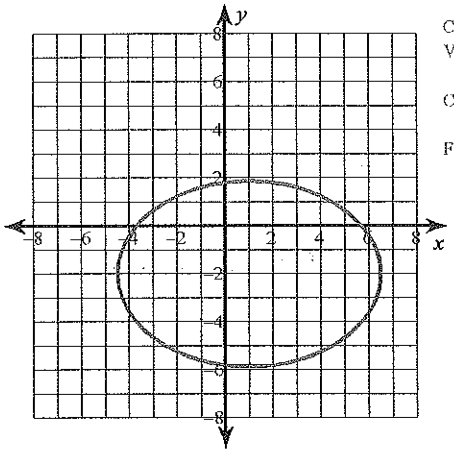
Center: $(4, 1)$
Vertices: $(4, 5)$
$(4, -3)$
Co-vertices: $(7, 1)$
$(1, 1)$
Foci: $(4, 1 + \sqrt{7})$
$(4, 1 - \sqrt{7})$

3) $\frac{(x+1)^2}{16} + \frac{(y-1)^2}{9} = 1$



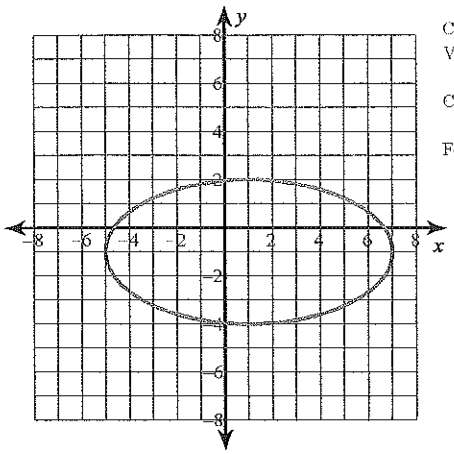
Center: $(-1, 1)$
Vertices: $(3, 1)$
$(-5, 1)$
Co-vertices: $(-1, 4)$
$(-1, -2)$
Foci: $(-1 + \sqrt{7}, 1)$
$(-1 - \sqrt{7}, 1)$

4) $\frac{(x-1)^2}{30} + \frac{(y+2)^2}{15} = 1$



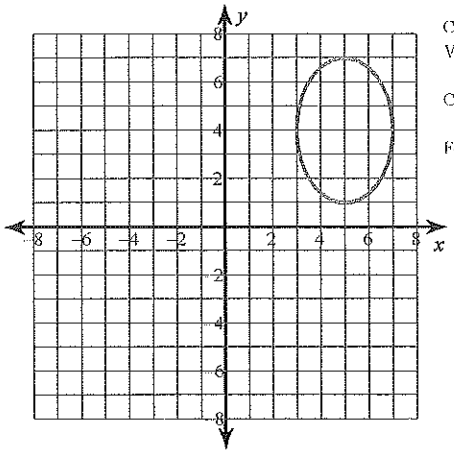
Center: $(1, -2)$
Vertices: $(1 + \sqrt{30}, -2)$
$(1 - \sqrt{30}, -2)$
Co-vertices: $(1, -2 + \sqrt{15})$
$(1, -2 - \sqrt{15})$
Foci: $(1 + \sqrt{15}, -2)$
$(1 - \sqrt{15}, -2)$

5) $\dfrac{(x-1)^2}{36}+\dfrac{(y+1)^2}{9}=1$



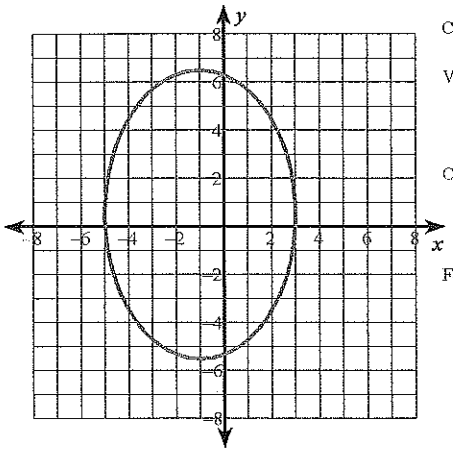
Center: (1, –1)
Vertices: (7, –1)
(–5, –1)
Co-vertices: (1, 2)
(1, –4)
Foci: $(1+3\sqrt{3},-1)$
$(1-3\sqrt{3},-1)$

6) $9x^2+4y^2-90x-32y+253=0$



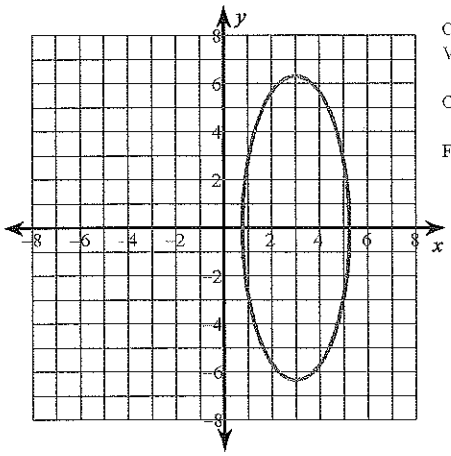
Center: (5, 4)
Vertices: (5, 7)
(5, 1)
Co-vertices: (7, 4)
(3, 4)
Foci: $(5,4+\sqrt{5})$
$(5,4-\sqrt{5})$

7) $9x^2+4y^2+18x-4y-134=0$



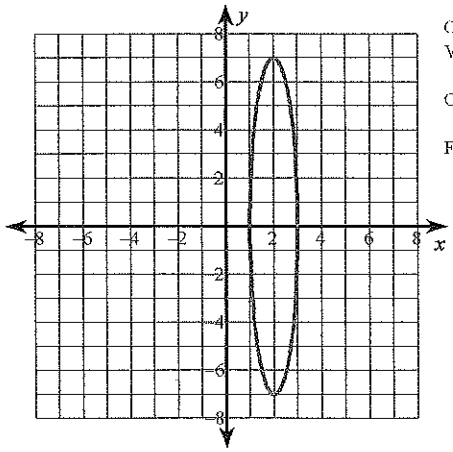
Center: $\left(-1,\frac{1}{2}\right)$
Vertices: $\left(-1,\frac{13}{2}\right)$
$\left(-1,-\frac{11}{2}\right)$
Co-vertices: $\left(3,\frac{1}{2}\right)$
$\left(-5,\frac{1}{2}\right)$
Foci: $\left(-1,\frac{4\sqrt{5}+1}{2}\right)$
$\left(-1,\frac{-4\sqrt{5}+1}{2}\right)$

8) $8x^2+y^2-48x+32=0$



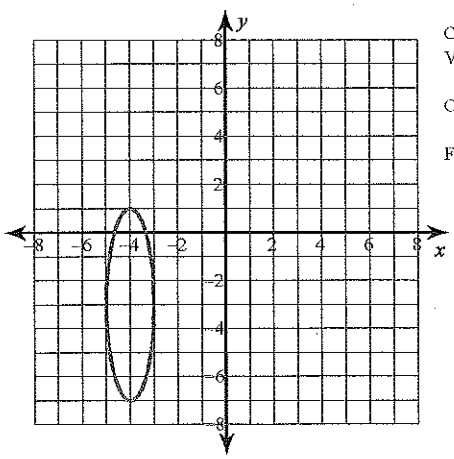
Center: (3, 0)
Vertices: $(3,2\sqrt{10})$
$(3,-2\sqrt{10})$
Co-vertices: $(3+\sqrt{5},0)$
$(3-\sqrt{5},0)$
Foci: $(3,\sqrt{35})$
$(3,-\sqrt{35})$

9) $49x^2+y^2-196x+147=0$



Center: (2, 0)
Vertices: (2, 7)
(2, –7)
Co-vertices: (3, 0)
(1, 0)
Foci: $(2,4\sqrt{3})$
$(2,-4\sqrt{3})$

10) $16x^2+y^2+128x+6y+249=0$



Center: (–4, –3)
Vertices: (–4, 1)
(–4, –7)
Co-vertices: (–3, –3)
(–5, –3)
Foci: $(-4,-3+\sqrt{15})$
$(-4,-3-\sqrt{15})$