Sheet #121 Name: KEY Pledge: ____ Period: ____

OPEN "EVERYTHING" USED IN CLASS. TIME: 35 MINUTES. TI-83/84 OK.

* = Challenging

Good Luck!

these formulas may be useful:

$(X-H)^2+(y-K)^2=R^2$ $(X-H)^2/a^2+(y-K)^2/b^2=1$

$(y-K)^2=4p(X-H)$ $c^2=a^2-b^2$

$d=\sqrt{\Delta X^2+\Delta y^2}$

$X=r\cos\theta$

$y=r\sin\theta$

$\cos^2\theta+\sin^2\theta=1$

1. FIND THE DISTANCE BETWEEN P(1,2) AND (-2,6).

$(\Delta X)^2+(\Delta y)^2=(-2-1)^2+(6-2)^2$

$=9+16=25$

(1) DISTANCE = 5 1pt

2. a) SKETCH & b) IDENTIFY $y^2=8X$. (2a)

DON'T PUT UNITS ON AXES.

(2a) SKETCH 1pt

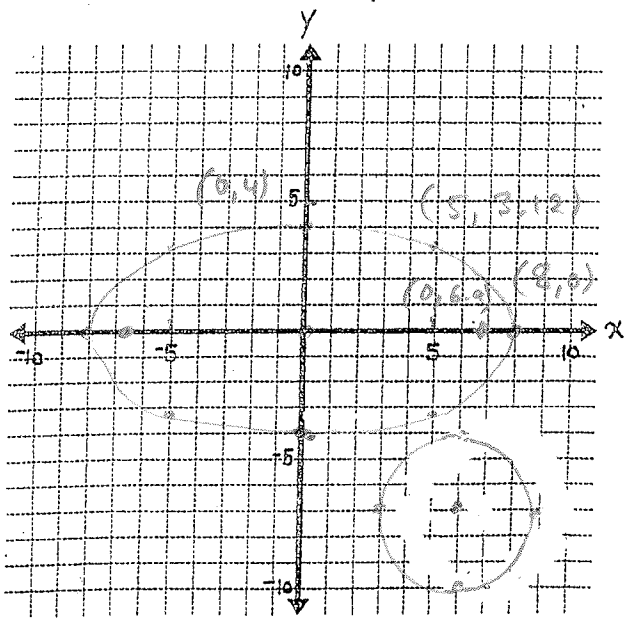
(2b) NAME OF SHAPE: PARABOLA 1pt

3. FIND THE RADIUS OF $X^2+y^2=5$.

(3) RADIUS: $\sqrt{5}$ 1pt

4. a) SKETCH THE CURVE b) FIND THE LENGTHS OF THE SEMI-MAJOR & SEMI MINOR AXES, AND * FOCAL LENGTHS:

$\frac{X^2}{64}+\frac{y^2}{16}=1$.



$c^2=8^2-4^2$

$=64-16=48$

$c=\sqrt{48}=4\sqrt{3}=$

6.928

(4b & 5a)

(4b)

SEMI MAJOR AXIS = 8 1pt

SEMI MINOR AXIS = 4 1pt

FOCAL LENGTH: $\sqrt{48}$ $4\sqrt{3}=6.928$ 1pt

(EXACT, NO DECIMALS)

(4b) SKETCH 2pts

(5a) GRAPH 2pts

5. a) GRAPH (ABOVE) THE CURVE OF THE CIRCLE THAT HAS RADIUS OF 3 AND CENTER AT (6,-7)

(5b)

EQUATION: 1pt

b)* FIND THE EQUATION OF THE SAME CIRCLE $(X-6)^2+(y+7)^2=9$ 1pt

6.* SHOW THAT $X=2\cos\theta$, $y=2\sin\theta$ IS A CIRCLE OF RADIUS 2. 1pt

$X^2+y^2=(2\cos\theta)^2+(2\sin\theta)^2=4(\cos^2\theta+\sin^2\theta)=4$

$X^2+y^2=4$