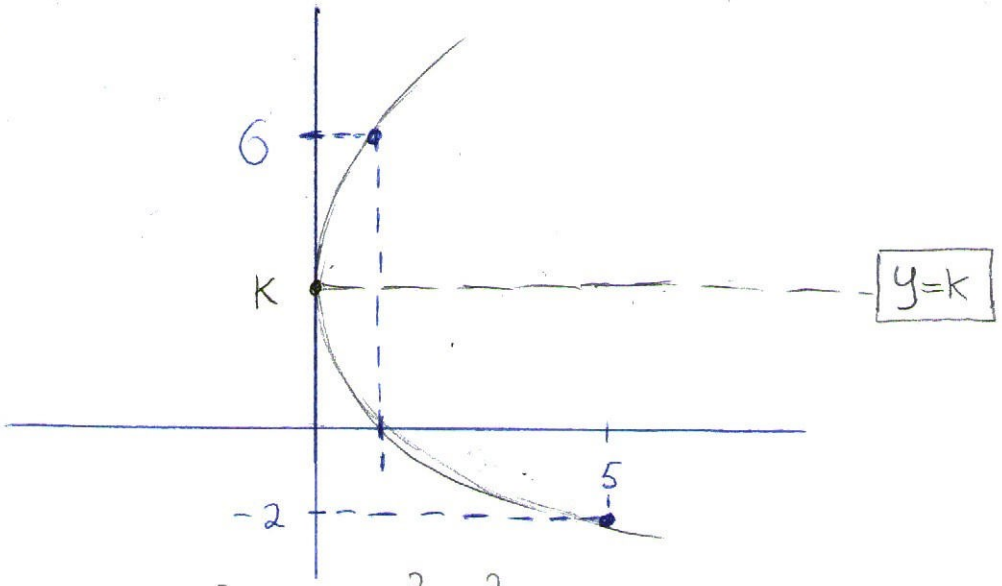

C(?, k)
M(1, 6) r-?
N(5, -2)
P(0, k)

$(x-h)^2+(y-k)^2=r^2$
(x_c, y_c)

① $\boxed{(1-h)^2+(6-k)^2=r^2}$

② $(5-h)^2+(-2-k)^2=r^2$
$\boxed{(5-h)^2+(2+k)^2=r^2}$

③ $(0-h)^2+(k-k$
$\boxed{h^2=r^2}$
$\hookrightarrow h=\pm r$
$h>0$, $\boxed{h=r}$

$$\begin{cases}(1-r)^2+(6-k)^2=r^2\\(5-r)^2+(2+k)^2=r^2\end{cases}$$

$1-2r+r^2+36-12k+k^2=r^2 \rightarrow 37-2r-12k+k^2=0$
$25-10r+r^2+4+4k+k^2=r^2 \rightarrow 29-10r+4k+k^2=0$
} we subtract the two.

$8+8r-16k=0 \rightarrow 1+r-2k=0$
$\boxed{r=2k-1}$

$k^2-12k+37-2(2k-1)=0$
$k^2-12k+37-4k+2=0$
$k^2-16k+39=0$
$(k-13)(k-3)=0$
$(k-13)=0$ or $k-3=0$
$k=13$ or $k=3$

$\hookrightarrow r=2(13)-1$
$r=25$
$h=25$
$\hookrightarrow (x-25)^2+(y-13)^2=625$

$r=2(3)-1$
$r=6-1$
$r=5$, $h=5$
$\hookrightarrow (x-5)^2+(y-3)^2=25$