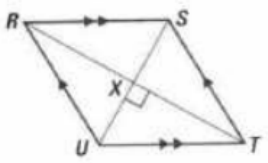
QRS

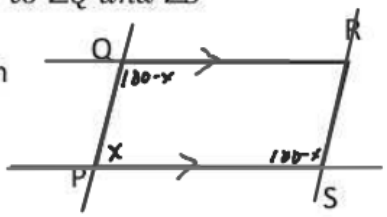
Given: RSTU is a parallelogram
$\overline{SU} \perp \overline{RT}$

Prove: $\angle STR \cong \angle UTR$



Given: $\angle P$ *is supplementary to* $\angle Q$ *and* $\angle S$

Prove: PQRS is a Parallelogram



Statement	Reason
1) $\angle P$ is Supp to $\angle Q$ and $\angle R$	1) Given
2) $\overline{QR} \parallel \overline{PS}$ $\overline{QP} \parallel \overline{RS}$	2) If consecutive Interior $\angle$s are Supp then lines are $\parallel$.
3) PQRS is a $\square$	3) Both Pairs of opposite Sides are $\parallel$.

What you will learn about:
Equations of Circles

Equation of a Circle

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

Center (h,k)

r — Radius

Write the standard from of a circle with center at (-4,2) and a radius of 7.

$h\ k$

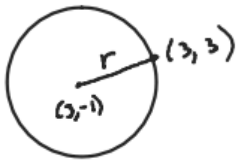
r

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

Write the standard from of a circle with center at (3, -5) and a diameter of 16.

$(x-3)^2+(y+5)^2=64$

The point (3, 3) is on a circle whose center is (3, -1). Write the standard equation of the circle.



$d=\sqrt{(3-3)^2+(3-(-1))^2}$

$=\sqrt{0^2+4^2}$

$=\sqrt{16}$

$=4$

$(x-3)^2+(y+1)^2=16$

$\frac{\sqrt{52}}{2}$ ~~$\neq \sqrt{26}$~~

Write the equation in standard form of a circle whose endpoints of the diameter are (2, 2) and (8, 6).

$\left(\frac{8+2}{2}, \frac{6+2}{2}\right)$

$(5, 4)$

$d=\sqrt{(8-5)^2+(6-4)^2}$

$=\sqrt{(3)^2+(2)^2}$

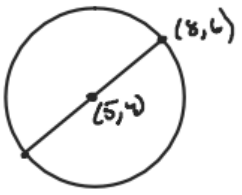
$=\sqrt{13}$

$r=\sqrt{13}$

$r^2=(\sqrt{13})^2$

$=13$

$(x-5)^2+(y-4)^2=13$



Write the equation in standard form of a circle whose endpoints of the diameter are (3, 13) and (-7, -11).

$\left(\frac{3-7}{2}, \frac{13-11}{2}\right)$

$(-2, 1)$

$d=\sqrt{(-2+7)^2+(1+11)^2}$

$=\sqrt{5^2+12^2}$

$=\sqrt{25+144}$

$\sqrt{169}=13$

$(x+2)^2+(y-1)^2=169$

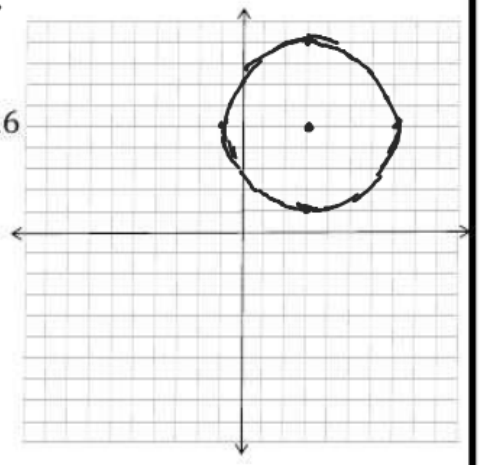
$(x-h)^2+(y-k)^2=r^2$

Graph the equation

$(x-3)^2+(y-5)^2=16$

Center $(3,5)$

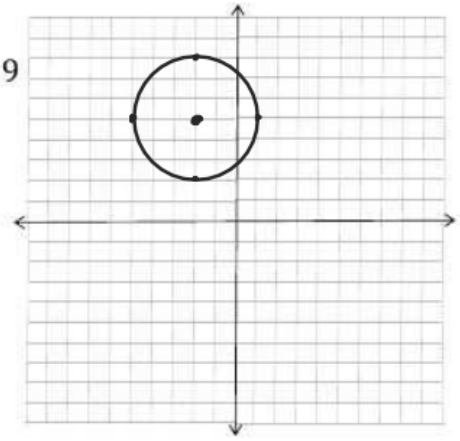
$r=4$



$(x+2)^2+(y-5)^2=9$

$C(-2,5)$

$r=3$



$x^2+(y+3)^2=25$

$C(0,-3)$

$r=5$