

$1) y = \sqrt{r - r^2 u^2} \Rightarrow r - r^2 u^2 \geq 0 \Rightarrow r^2 u^2 \leq r$ $\Rightarrow u^2 \leq \frac{1}{r}$	$2) y = \sqrt{r u - 9} \Rightarrow r u - 9 \geq 0 \Rightarrow u \geq \frac{9}{r}$ $\Rightarrow u \leq -\frac{9}{r} \text{ or } u \geq \frac{9}{r} \Rightarrow (-\infty, -\frac{9}{r}] \cup [\frac{9}{r}, \infty)$	6		
$1) y = \sqrt{\frac{ u +1}{ u -r}} \Rightarrow \frac{ u +1}{ u -r} \geq 0$ $\Rightarrow u -r > 0 \Rightarrow u > r \Rightarrow u < -r \text{ or } u > r$ $(-\infty, -r) \cup (r, \infty)$	$2) y = \sqrt{\frac{\sqrt{u}+1}{\sqrt{u}-r}} \Rightarrow u \geq 0 \Rightarrow \sqrt{u} - r > 0$ $\Rightarrow \sqrt{u} > r \Rightarrow u > r^2 \Rightarrow (r^2, \infty)$	7		
$1) y = \frac{\sin u}{r \cos u - 1}$ $r \cos u - 1 \neq 0 \Rightarrow \cos u \neq \frac{1}{r}$ $u \neq \arccos\left(\frac{1}{r}\right) + 2k\pi \text{ or } u \neq -\arccos\left(\frac{1}{r}\right) + 2k\pi$	$2) y = \frac{\cos u + 1}{r \sin u + 1}$ $r \sin u + 1 \neq 0 \Rightarrow \sin u \neq -\frac{1}{r}$ $u \neq \arcsin\left(-\frac{1}{r}\right) + 2k\pi \text{ or } u \neq \pi - \arcsin\left(-\frac{1}{r}\right) + 2k\pi$	$3) y = \frac{\tan u + 1}{\cot u - 1}$ $\cos u \neq 0, \sin u \neq 0$ $\cot u - 1 \neq 0 \Rightarrow \cot u \neq 1$ $u \neq \frac{\pi}{4} + k\pi \text{ or } u \neq \frac{5\pi}{4} + k\pi$	$4) \frac{\sin u + 1}{r \sin u - r}$ $\sin u = -1$ $u = \frac{3\pi}{2} + 2k\pi$	8
$y = \frac{1}{\sqrt{r u-r - \frac{1}{r}}} \Rightarrow r u-r - \frac{1}{r} > 0 \Rightarrow r u-r > \frac{1}{r} \Rightarrow u-r > \frac{1}{r^2}$ $u < \frac{r}{r^2} \text{ or } u > \frac{r}{r^2} \Rightarrow (-\infty, \frac{r}{r^2}) \cup (\frac{r}{r^2}, \infty)$	$2) y = \sqrt{\frac{ u }{ u }} \Rightarrow u \neq 0 \Rightarrow u \neq 0$ $\frac{ u }{ u } = 1$	9		
$1) y = \sqrt{r - r^2 u } \Rightarrow r - r^2 u \geq 0$ $ u \leq r \Rightarrow [-r, r]$	$2) y = \sqrt{\frac{ u }{ u }} \Rightarrow u \neq 0 \Rightarrow u \neq 0$ $\frac{ u }{ u } = 1$	10		