11.5 #7

We plug $x=t$, $y=1+t$, and $z=1-t$ into equation of the sphere $x^2+y^2+z^2=29$.

So $t^2+(1+t)^2+(1-t)^2=29$

$t^2+1+2t+t^2+1-2t+t^2=29$

$3t^2=27$

$t^2=9$

$t=-3$ or $t=3$

$t=-3$: $(x,y,z)=(-3,-2,4)$

$t=3$: $(x,y,z)=(3,4,-2)$

So line intersects sphere at $(-3,-2,4)$ and $(3,4,-2)$.