			x	y	z			
ro	ray origin		0	0	6			
rd	ray direction (vector)		0.33	0.25	-2	2.0424005		
rd	ray direction normalized		0.1615746	0.122405	-0.97924			
Sc	sphere center (point)		0	0	0			
r	sphere radius (scalar)		2					
r^2	radius squared		4					
slide								
15	ro inside sphere? || Sc - ro || < r?		0	0	6	6	FALSE	< r? ie, is ro in the sphere?
15	OC = vector Sc - ro	OC	0	0	-6			
15	distance to closest approach tca = OC dot rd	tca	5.8754391				FALSE	< 0?
16	if tca < 0 and r0 not inside sphere, we may have an intersection.						TRUE	might intersect?
16	distance to closest appraoch to point where it hits surface	thc^2	2.5207844				FALSE	thc^2 < 0? If true, no intersection!
17	if ro is not inside the sphere	t	4.2877413					
	if ro is inside the spehre	t	-					
18	intersection point	p_i	0.69279	0.5248409	1.8012729			
18	normal at intersection point p_i-Sc	n	0.346395	0.2624204	0.9006365			