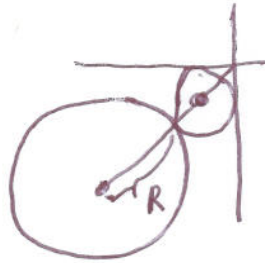


Picture for Number 4



from the center of the big sphere to the corner
 $\sqrt{3}R$

from the center of the little sphere to the corner
 $\sqrt{3}r$

$$\sqrt{3}R = R + r + \sqrt{3}r$$