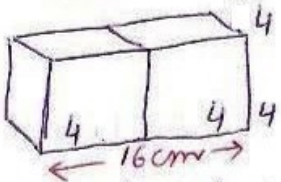
① 

vol. of each cube = $64cm^3$

$e^3 = 64$

$\Rightarrow e = \sqrt[3]{64}$

$= 4$ cm

S.A. of resulting cuboid $= 2(lb+bh+lh)$

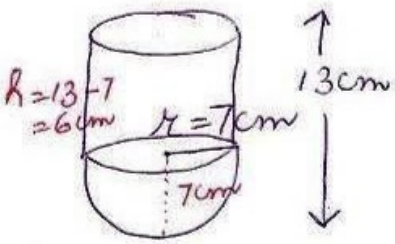
$= 2(8\times4 + 4\times4 + 8\times4)$

$= 2\times4\times4(2+1+2)$

$= 32\times5$

$= 160\ cm^2$

cm

② 

Inner Surface area

$= 2\pi rh + 2\pi r^2$

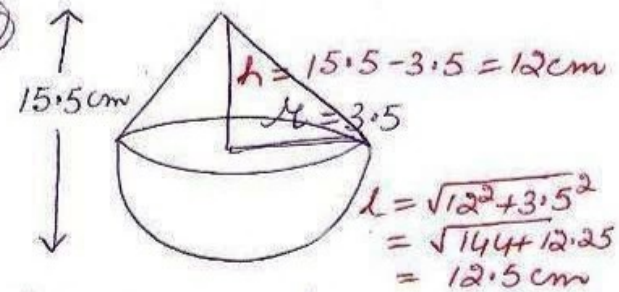
[CSA of cylinder and hemi Sphere]

$= 2\pi r(r+h)$

$= 2\times\frac{22}{7}\times7(7+6)$

$= 44\times13$

$= 572\ cm^2$

③ 

$l = \sqrt{12^2+3.5^2}$

$= \sqrt{144+12.25}$

$= 12.5$ cm

Total surface area of toy = CSA of cone + CSA of h.s

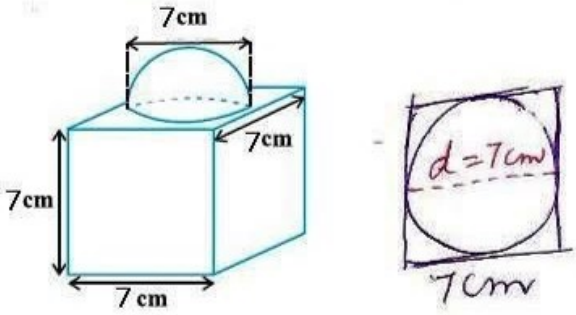
$= \pi rl + 2\pi r^2$

$= \pi r(l+2r)$

$= \frac{22}{7}\times3.5(12.5+2\times3.5)$

$= 11\times19.5$

$= 214.5\ cm^2$

④ 

greatest diam. hemisphere can have = 7cm

SA of solid

= S.A. of cuboid + CSA of h.s. − area of h.s. base

$= 6e^2 + 2\pi r^2 - \pi r^2$

$= 6e^2 + \pi r^2$

$= 6\times7\times7 + \frac{22}{7}\times3.5\times3.5$

$= 294 + 38.5$

$= 332.5\ cm^2$