PHYS 703 - Potential in a cube.

An empty cube is bounded by planes held at different potentials.
The cube faces at $x = 0$ and $x = 6$m are held at $\Phi = 2$V and $\Phi = 3$V.
The cube faces at $y = 0$ and $y = 6$m are held at $\Phi = 2$V and $\Phi = 6$V.
The cube faces at $z = 0$ and $z = 6$m are held at $\Phi = 2$V and $\Phi = 9$V.

Find the potential at

1. $(x, y, z) = (3, 3, 3)$m   and at

2. $(x, y, z) = (3, 4, 5)$m

to 1% or better precision.