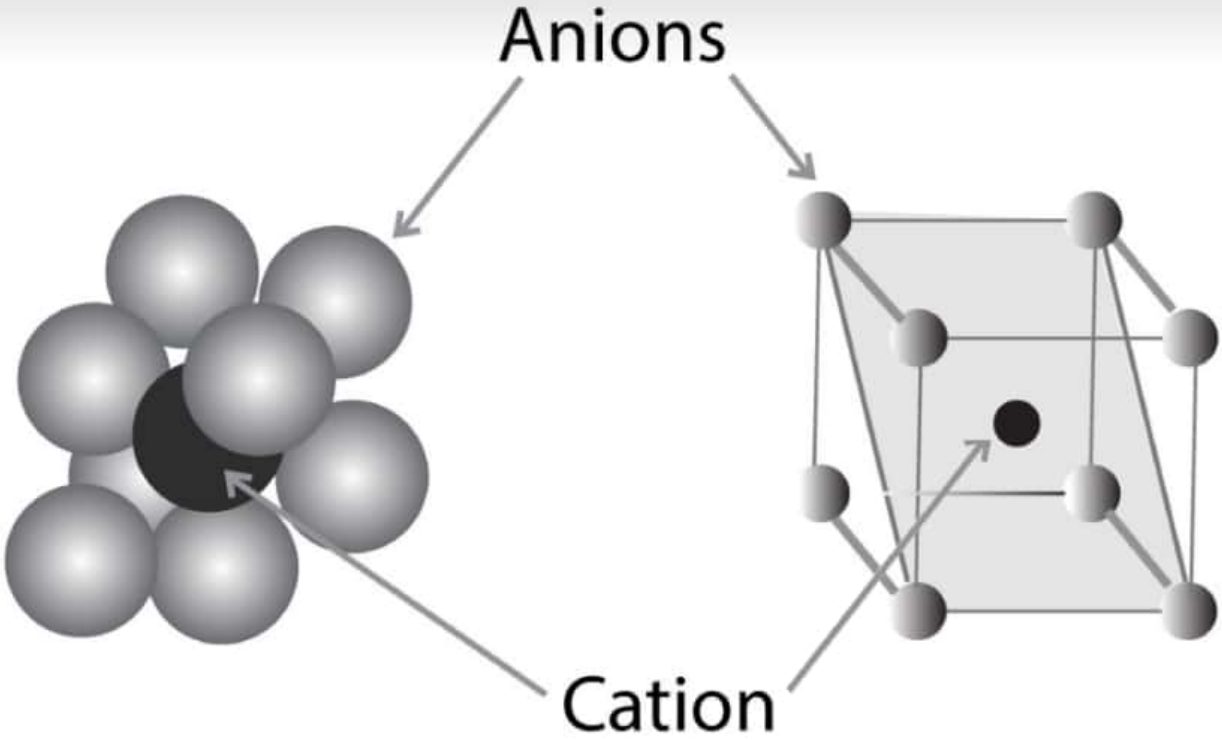
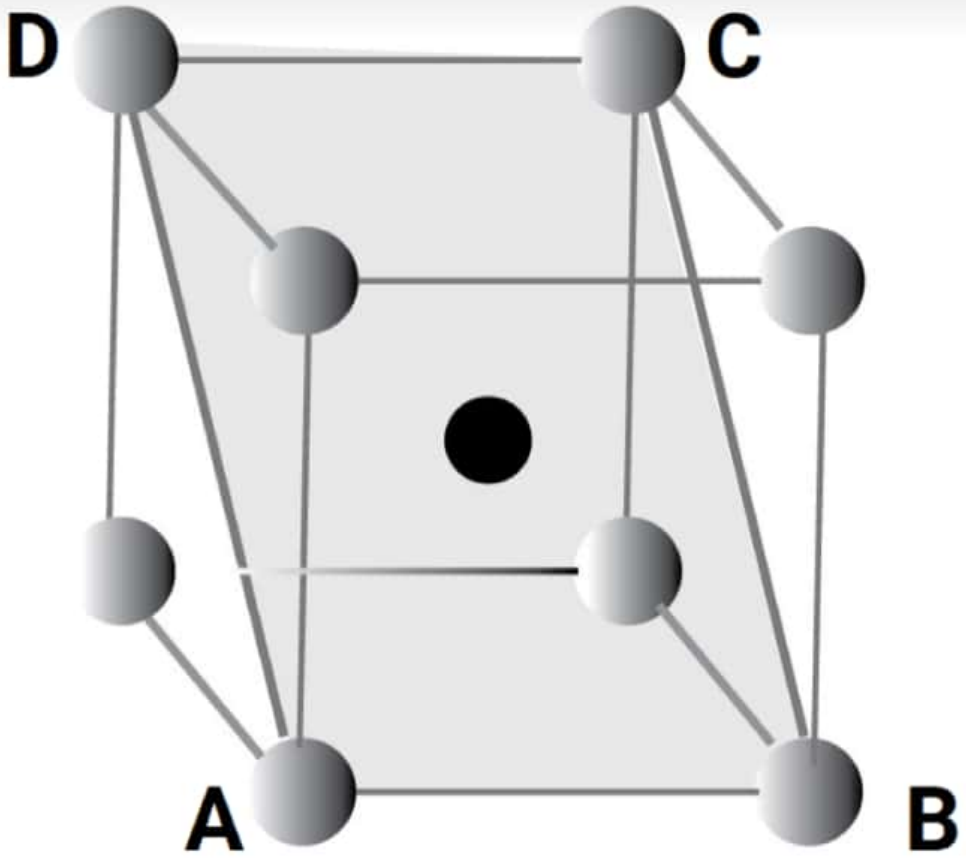
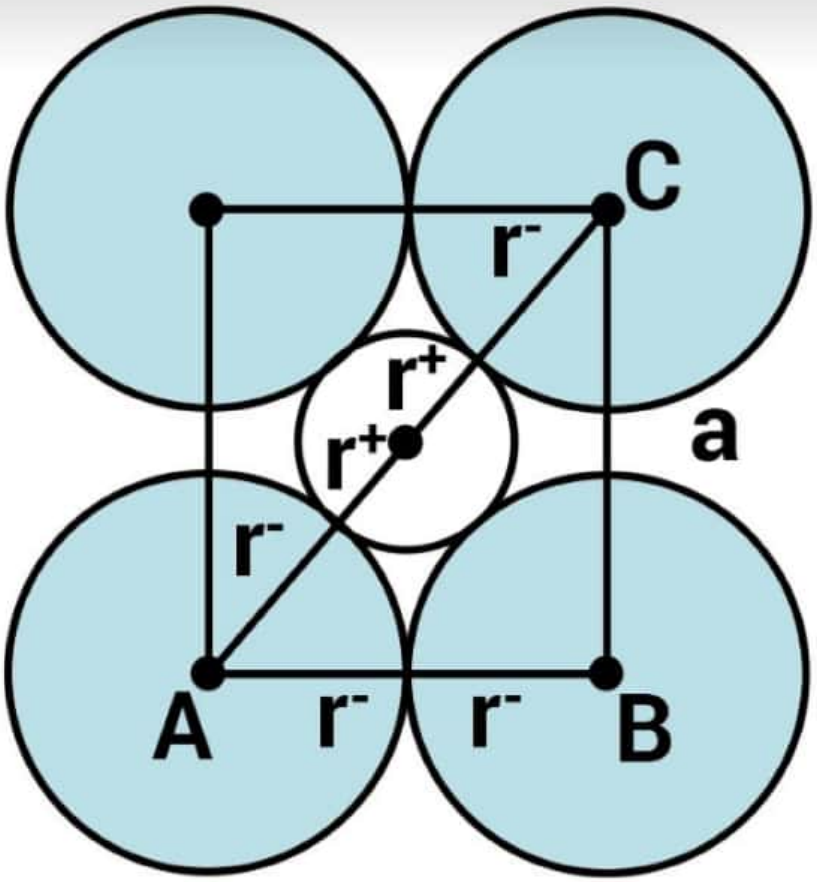
Finally we will find limiting radius ratio for CN = 8



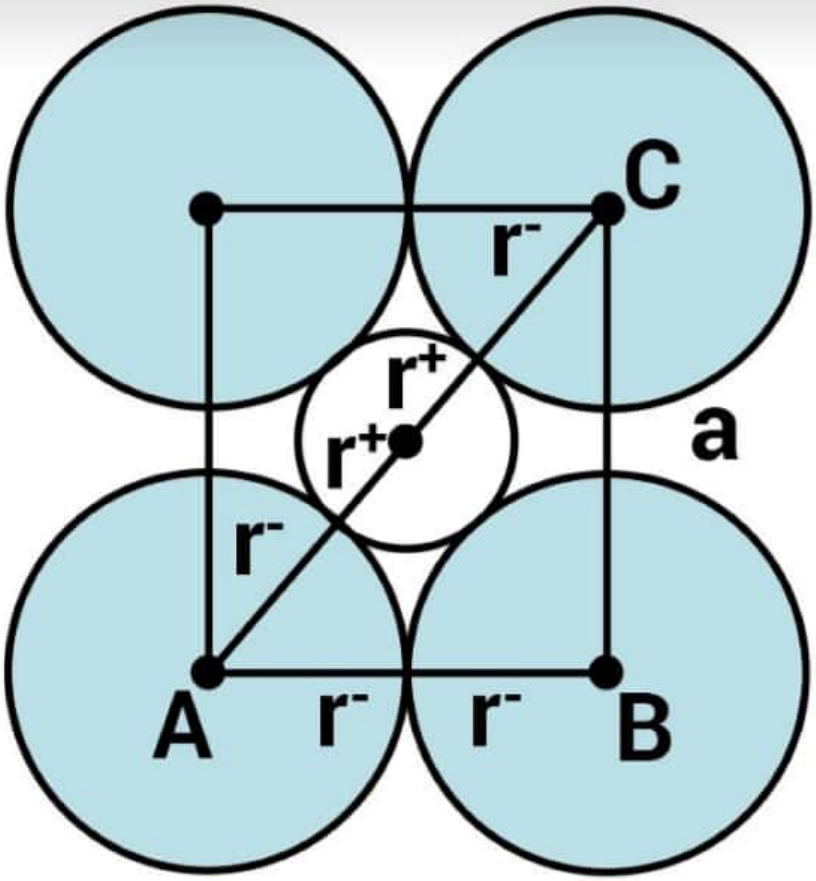
The geometry here is cubic.



To calculate the limiting radius ratio, we will use the plane shown above

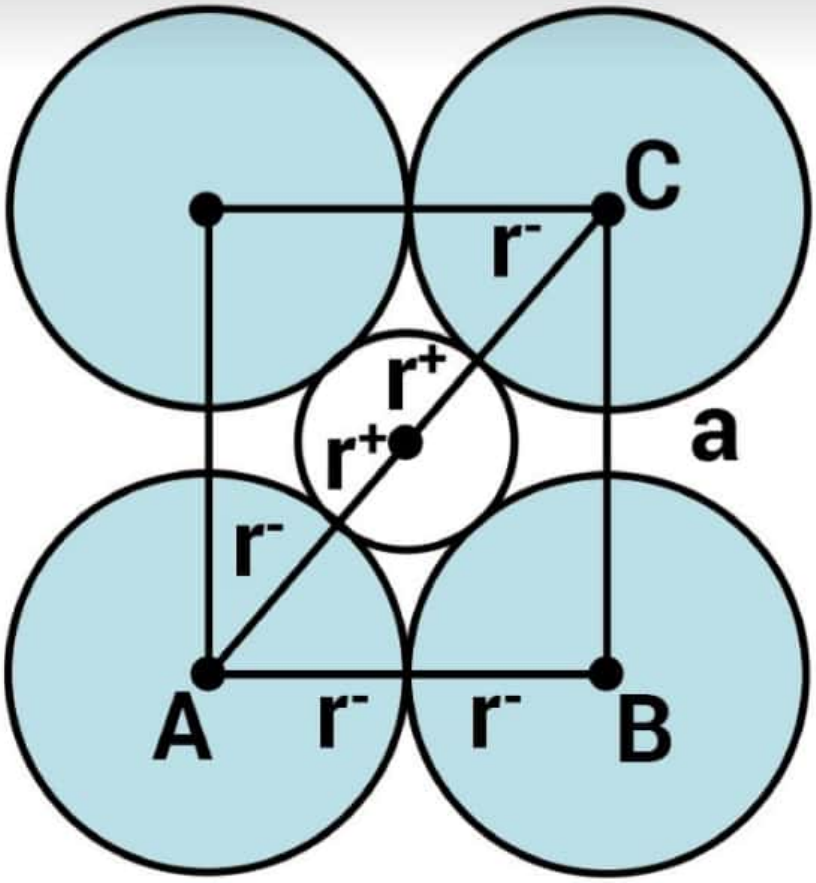


The given plane will look like this. Let r^+ be radius of cation and r^- be radius of anion



In this plane, AB = $2r^-$. AB is also the side of the cube i.e a.

So a = $2r^-$.



Also AC = $(2r^+ + 2r^-)$. AC is also the body diagonal of the cube i.e ^3a. So $^3a = 2r^+ + 2r^-$

For eg ? ② and ③

$$\sqrt{3}\,(2r^-) = 2(r^+ + r^-)$$

$$\sqrt{3} = \frac{r^+ + r^-}{r^-}$$

$$\Rightarrow \frac{r^+}{r^-} = \sqrt{3} - 1 = 0.732$$

$$\Rightarrow \boxed{\frac{r^+}{r^-} = 0.732}$$

Now we will put $a = 2r^-$ in ③

$$a = 2r^+ + 2r^-$$

Hence the limiting radius ratio of cubic geometry is 0.732