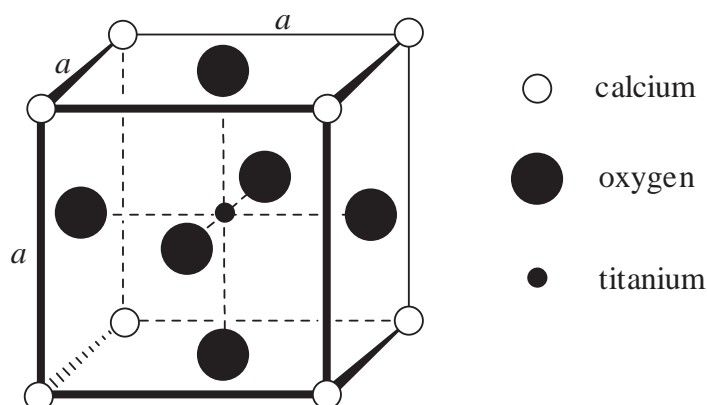


**Marks**  
**5**

- The diagram below shows the structure of perovskite, a mineral made up of calcium (at each of the corners), oxygen (in the centre of each of the faces), and titanium (at the centre of the cube). The unit cell dimension (edge length,  $a$ ) for perovskite is 0.38 nm.



What is the chemical formula of perovskite?

Answer:

What is the volume of the unit cell?

Answer:

What is the density of perovskite? Give your answer in  $\text{g cm}^{-3}$ .

Answer: