

## 14: Is $\frac{1}{8} = 0.8$ ? (or 0.08) ?

---

The usual mistake here is to be influenced by the 'looks'. There is absolutely no reason why  $\frac{1}{8}$  should be equal to 0.8. But then again, there's no reason why it shouldn't either.

The fact is it just isn't.

In fact, 0.8 is reached by 8 steps of 0.1 each, and thus means '8 tenths'

$$\text{i.e. } 8 \times \frac{1}{10} \text{ or } \frac{8}{10}.$$

Dividing one cake between 8 people ( $\frac{1}{8}$ ) has little to do with dividing 8 cakes between 10 people ( $\frac{8}{10}$ )

I think I'd rather be one of the 10 people with 8 cakes, than the 8 people with 1 cake.

And by the way, is there any digit  $d$  for which  $\frac{1}{d} = 0.d$  can be true?