# Deacon's Challenge No. 30  Answer

*A standard has to be made up containing 100 mg dextropropoxyphene (Mol. Weight 339.5) per litre. How much dextropropoxyphene napsylate (Mol Weight 565.7) must be weighed out to make 100 mL of standard solution?*

*MRCPath, May 2003*

First calculate the millimolar concentration of dextropropoxyphene in the standard:

$$\text{Concentration (mmol/L)} = \frac{\text{Concentration (mg/L)}}{\text{MW dextropropoxyphene}} = \frac{100}{339.5} = 0.295 \text{ mmol/L}$$

The millimolar concentration of dextropropoxyphene amd dextropropoxyphene napsylate will be the same. To calculate how much dextropropoxyphene napsylate must be weighed out (in mg) multiply the millimolar concentration by the molecular weight of dextropropoxyphene napsylate:

Concentration (mg/L) = Concentration (mmol/L) x  MW dextropropoxyphene napsylate

$$= \quad 0.295 \quad x \quad 565.7 \quad = \quad 166.9 \text{ mg/L}$$

To prepare 100 mL of standard, weight required $= \dfrac{166.9}{10} = $ **16.7 mg**  (to 3 sig figs)

## Question No. 31

The normal pH of plasma is 7.40: the minimum pH of urine is 4.5. Assuming an average urine volume of 1.5L/24h, estimate the limit of titratable acidity of the urine, *indicating what assumptions you make.*

*MRCPath, May 1999*