

1. Translate the (cartoon of) Babylonian cuneiform script into our numerals

$$\begin{array}{ccc} \left\langle \left\langle \begin{array}{c} \text{Y Y} \\ \text{Y Y} \end{array} \right\rangle \left\langle \begin{array}{c} \text{Y Y Y Y} \\ \text{Y Y Y Y} \end{array} \right\rangle \left\langle \right. & = & 34 \cdot 60^2 + 18 \cdot 60 + 10 \\ \underbrace{\hspace{1.5cm}} & \underbrace{\hspace{1.5cm}} & \underbrace{\hspace{1.5cm}} \\ 60^2\text{'s} & 60\text{'s} & 1\text{'s} \end{array} = 123,490$$

2. Each number below is written **base 60**, where the semicolon is used in place of a sexagesimal point. Rewrite them as a base 10 number using a decimal point!

$$\begin{aligned} \text{(a) } 5,46,10 &= 5 \cdot 60^2 + 46 \cdot 60 + 10 \\ &= 20,770 \end{aligned}$$

$$\begin{aligned} \text{(b) } 1,0;28,59 &= 1 \cdot 60 + 0 + \frac{28}{60} + \frac{59}{60^2} = 60.48305555... \\ &= \frac{217739}{3600} \end{aligned}$$

3. Write each decimal number below in base 60.

$$\text{(a) } 62.3 = 62 + \frac{3}{10} = 60 + 2 + \frac{18}{60} = 1,2;18$$

$$\text{(b) } 62.33333... = 60 + 2 + \frac{1}{3} = 1,2;20 \quad \leftarrow \text{Not repeating}$$

$$\begin{aligned} \text{(c) } 300,000 &= 1 \cdot 60^3 + 84,000 \\ &= 1 \cdot 60^3 + 23 \cdot 60^2 + 1200 \\ &= 1 \cdot 60^3 + 23 \cdot 60^2 + 20 \cdot 60 + 0 \cdot 1 \end{aligned}$$

base 60: 1,23,20,0