

4) If $\log_{10} 2 = a$ and $\log_{10} 3 = b$, what does $\log_5 12$ equal in terms of a and b ?

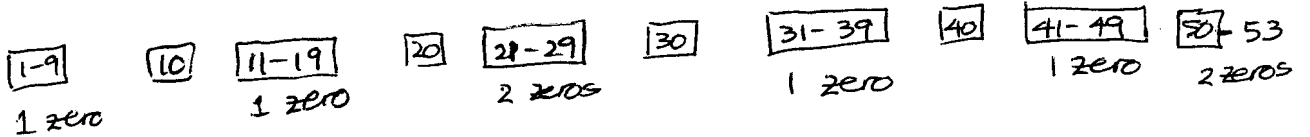
$$\log_5 12 = \frac{\log 12}{\log 5} = \frac{2 \log 2 + \log 3}{\log 5}$$

$$\frac{2 \cdot a + b}{\log 10 - \log 2}$$

$$\frac{2a + b}{1 - a}$$

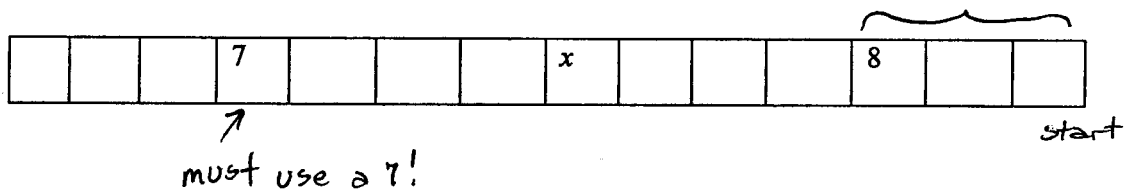
$$\frac{2a + b}{1 - a}$$

5) How many zeros does $53!$ end in?



$$\underline{12 \text{ zeros}}$$

6) The 14 digits in a credit card are to be written in the boxes shown. If the sum of any three consecutive digits is 18, what is the value of x ?



$$\underline{3}$$