

Math 150 Problem of the Week

Week 13

**If 5 cats catch 5 mice in 5 minutes,
how many cats are needed to
catch 100 mice in 100 minutes**

With a FIXED 5 cats, the ratio of mice per minute stays 1 to 1. Since 100 mice in 100 minutes is also 1 to 1 as a ratio, the result is 5 cats

$$\text{each 5 cats catches } \frac{5 \text{ mice}}{5 \text{ min}} = \frac{1 \text{ mouse}}{\text{min}} \quad \begin{array}{r} 0 \text{ } 100 \\ \hline 100 \end{array}$$

$$\text{each 5 cats catches } \frac{100 \text{ mice}}{100 \text{ min}}$$