

7.NS Equivalent fractions approach to non-repeating decimals

Task

Malia found a "short cut" to find the decimal representation of the fraction $\frac{117}{250}$. Rather than use long division she noticed that because $250 \times 4 = 1000$,

$$\frac{117}{250} = \frac{117 \times 4}{250 \times 4} = \frac{468}{1000} = 0.468.$$

a. For which of the following fractions does Malia's strategy work to find the decimal representation?

$$\frac{1}{3}, \frac{3}{4}, -\frac{6}{25}, \frac{18}{7}, \frac{13}{8} \text{ and } -\frac{113}{40}.$$

For each one for which the strategy does work, use it to find the decimal representation.

b. For which denominators can Malia's strategy work?

