

Generating Small Numbers

1. (a) Fill in the next three terms in this sequence:

$$\frac{1}{2}, \frac{2}{3}, \frac{3}{4}, \frac{4}{5}, \frac{\square}{\square}, \frac{\square}{\square}, \frac{\square}{\square}, \dots$$

(b) Are the fractions in the sequence above getting larger or smaller?

(c) Where does this sequence appear to be going?

2. Use the numbers 1, 2, 3, and 4 exactly once each to fill in the boxes in these fractions. Put them in the boxes so that the result gives the smallest answer.

(a)

$$\frac{\square}{\square} + \frac{\square}{\square}$$

(b)

$$\frac{\square}{\square} - \frac{\square}{\square}$$

(c)

$$\frac{\square}{\square} \times \frac{\square}{\square}$$

3. Use the numbers 1, 2, 4, and 8 exactly once each to fill in the boxes in these fractions. Put them in the boxes so that the result gives the smallest answer.

(a)

$$\frac{\square}{\square} + \frac{\square}{\square}$$

(b)

$$\frac{\square}{\square} - \frac{\square}{\square}$$

(c)

$$\frac{\square}{\square} \times \frac{\square}{\square}$$