Chapter 7 Problems of the Week Answers

1. a) $\left(\frac{4}{6}+\frac{1}{2}\right)+\left(\frac{2}{3}+\frac{1}{6}\right)+\left(\frac{1}{6}+\frac{5}{6}\right)=3$

b) $\left(\frac{4}{6}+\frac{2}{3}\right)+\left(\frac{1}{6}+\frac{2}{6}\right)+\left(\frac{1}{3}+\frac{5}{6}\right)=3$

2. a) Yes. $9, 10\frac{2}{5}, 11\frac{4}{5}, 13\frac{1}{5}, 14\frac{3}{5}$

Add $1\frac{2}{5}$ to the previous number.

b) No. $10\frac{1}{2}, 10\frac{1}{8}, 9\frac{3}{4}, 9\frac{3}{8}, 9$

Subtract $\frac{3}{8}$ from the previous number.

c) No. $9\frac{5}{8}, 11\frac{1}{4}, 12\frac{7}{8}, 14\frac{1}{2}, 16\frac{1}{8}$

Add $1\frac{5}{8}$ to the previous number.

3. a) $\frac{3}{4}+\frac{1}{2}=1\frac{1}{4}, \frac{1}{3}+\frac{2}{4}=\frac{5}{6}$ **b)** $\frac{3}{5}+\frac{1}{7}=\frac{26}{35}, \frac{1}{5}+\frac{3}{7}=\frac{22}{35}$

c) $\frac{4}{5}+\frac{3}{6}=1\frac{3}{10}, \frac{4}{6}+\frac{3}{5}=1\frac{4}{15}$

4. a) $\frac{4}{6}-\frac{2}{8}=\frac{5}{12}, \frac{4}{8}-\frac{2}{6}=\frac{1}{6}$ **b)** $\frac{2}{3}-\frac{1}{4}=\frac{5}{12}, \frac{2}{4}-\frac{1}{3}=\frac{1}{6}$

c) $\frac{3}{5}-\frac{1}{7}=\frac{16}{35}, \frac{3}{7}-\frac{1}{5}=\frac{8}{35}$

5. Never, because any fraction divided by 2 does not equal 0

6. a) $\frac{1}{100}, \frac{5}{100}, \frac{10}{100}, \frac{25}{100}, \frac{50}{100}, \frac{100}{100}$

b) Answers may vary. For example:
11 coins;
$\frac{1}{100}+\frac{1}{100}+\frac{1}{100}+\frac{1}{100}+\frac{1}{100}+\frac{5}{100}$
$+\frac{5}{100}+\frac{10}{100}+\frac{25}{100}+\frac{50}{100}+\frac{100}{100}=2$

7. Answers should list any seven unequal fractions with a sum of 1. For example:
red = $\frac{1}{28}$; orange = $\frac{2}{28}$, yellow = $\frac{3}{28}$, green = $\frac{4}{28}$, blue = $\frac{5}{28}$, indigo = $\frac{6}{28}$, violet = $\frac{7}{28}$