

Pre-Algebra
Homework 4 Fractions II Solutions

Prob 1.

- a. $\frac{12}{13}$
- b. $\frac{4}{4} = 1$
- c. $\frac{3}{5}$
- d. $\frac{6}{16} = \frac{3}{8}$
- e. $\frac{3}{7}$
- f. $\frac{16}{36} = \frac{4}{9}$

Prob. 2

- a. $\frac{5}{30} + \frac{8}{30} = \frac{13}{30}$
- b. $\frac{10}{60} + \frac{8}{68} = \frac{78}{78}$
- c. $\frac{85}{60} - \frac{13}{13} = \frac{85}{47}$
- d. $\frac{30}{540} + \frac{126}{540} = \frac{156}{540} = \frac{78}{270} = \frac{39}{135} = \frac{13}{45}$
- e. $\frac{-2}{5}$
- f. $\frac{209}{323} - \frac{187}{323} = \frac{22}{323}$

Prob. 3

- a. $\frac{36}{30} + \frac{5}{30} = \frac{41}{30}$
- b. $\frac{26}{7} - \frac{12}{7} = 2$
- c. $\frac{59}{8} + \frac{12}{8} = \frac{71}{8}$
- d. $\frac{88}{28} - \frac{133}{28} = -\frac{45}{28}$
- e. $\frac{39}{8} - \frac{29}{8} = \frac{5}{4}$
- f. $8\frac{11}{12} - 1\frac{6}{12} = 7\frac{5}{12} = \frac{77}{12}$

Prob. 4

The cake is divided into 9 pieces. Hence, each piece of the cake is $\frac{1}{9}$. If you and your friend each take two pieces, then you've taken 4 pieces and thus there is $\frac{5}{9}$ of the cake left.

Prob. 5

- a. $x = \frac{-12}{15} = \frac{-4}{5}$
- b. $y = \frac{1}{4}$
- c. $b = \frac{27}{40}$
- d. $x = 1\frac{1}{6} = \frac{7}{6}$
- e. $z = -3\frac{9}{35} = \frac{-114}{35}$
- f. $z = \frac{16}{22} = \frac{8}{11}$
- g. $x = -2\frac{5}{21} = \frac{-47}{21}$
- h. $x = -2\frac{2}{5} = \frac{-12}{5}$
- i. $a = \frac{25}{21}$

j. $x = \frac{7}{15}$
k. $x = 6\frac{11}{10} = 7\frac{1}{10} = \frac{71}{10}$
l. $x = 5\frac{8}{6} = 6\frac{1}{3} = \frac{19}{3}$

Prob. 6

Bob's slice plus Alice's slice of cake equals $\frac{3}{8}$. Alice's slice was $\frac{1}{8}$, so Bob's slice is equal to $\frac{3}{8} - \frac{1}{8} = \frac{1}{4}$.

Prob. 7

Alice is paying for $\frac{3}{5}$ of the car, thus Bob is paying for $1 - \frac{3}{5} = \frac{2}{5}$ of the car.

Prob. 8

We used $\frac{1}{8} + \frac{1}{6} + \frac{1}{3}$ of the eggs. Look at the denominators. To calculate the *lcd*, look at the factors: $8 = 2 \times 2 \times 2$, $6 = 2 \times 3$, and 3 just $= 3$; so the *lcd* is $3 \times 2 \times 2 \times 2 = 24$. So

$\frac{1}{8} + \frac{1}{6} + \frac{1}{3} = \frac{3}{24} + \frac{4}{24} + \frac{8}{24} = \frac{3+4+8}{24} = \frac{15}{24}$
 $= \frac{5}{8}$ in lowest terms. So we have $1 - \frac{5}{8} = \frac{3}{8}$ of the box of eggs left. One dozen = 12 eggs, two dozen = 24 eggs. We have $\frac{3}{8} \times 24 = 9$ eggs left.