1. Compute:

$$\text{(a) } 5 \div 7\tfrac{1}{2} \qquad \text{(b) } (2 - 3.5) \times \tfrac{2}{3} \qquad \text{(c) } 3\tfrac{2}{11} \div \frac{5}{7}$$

2. Simplify the following expressions

(a) $x + 4(1 - x)$ (b) $2 + 5x - 4(3 - x)$ (c) $5(x - 1) - 3(2x + 1)$

(d) $x - \tfrac{4}{5}(1 - x)$ (e) $\left(\tfrac{2}{3}x + 1\right) \div \tfrac{6}{7}$ (f) $2 \div (3 \div x - 1)$

3. Solve the following equations.

(a) $\tfrac{3}{4}x = 12$ (b) $\tfrac{1}{2}x + \tfrac{1}{7}x = 18$ (c) $\tfrac{2}{3}(x + 7) = 12$ (d) $2.1x + \tfrac{1}{5}x + 1 = 9$

4. Two pipes burst in an building. Two types of water are flowing into the apartment: hot and cold. The cold is flowing in at 70 Liters/minute, and the hot at 2 Liters/second. Will the residents of the apartment drown in freezing water or be boiled alive?

5. John bought a large bag of red, green, and blue candies for Halloween, 74 candies in all. The number of red candies is one less than the number of green candies, and there are as many blue candies as red and green together. How many pieces of candy of each color are there?

6. A boy had a bag of apples. He gave $1/2$ of them to his parents, $1/5$ to his brother, $1/4$ to his sister and the last apple he ate himself. How many apples did he originally have?

7. Right now, Jane is 5 and her father is 42. In how many years will he be twice as old as she? Three times as old? (hint: denote the number of years by x and write the equation for x).

8. A hot water tap fills the bath in 5 minutes. The cold water tap fills the bath in 3 minutes. With both taps open, how long will it take to fill the bath?

9. A watermelon is 99% water (by weight). A watermelon jelly is 98% water (by weight). How much water does one have to evaporate from 1 kg watermelon to turn it into jelly?

10. A pet store sells parrots and canaries, A canary costs twice as much as a parrot. One customer bought 5 canaries and 3 parrots, while the other bought 3 canaries and 5 parrots. One of the customers paid $20 more than the other. How much does each bird cost?

*11. The numbers 1, 2,..., 10 are written in a row. Is it possible to put signs $+$ and $-$ between them so that the result is equal to zero?