Section 8.4 Extra Practice

1. Solve and check each of the following.

a) $0.4x = 5.58 - 0.2x$

b) $7.2 + 2.3x = 3.2x$

c) $\dfrac{x}{6} - \dfrac{9}{2} = \dfrac{2x}{3}$

d) $\dfrac{3}{2}m = m + 7$

e) $\dfrac{x-3}{2} = 10$

f) $1.4m = 1.5m - 0.57$

2. Solve and check each of the following.

a) $\dfrac{1}{2}x - 1 = \dfrac{1}{4}x + \dfrac{3}{4}$

b) $1.3m + 64.2 = 2.7m + 12.82$

c) $5n - 6.4 = 3n + 2.6$

d) $\dfrac{1}{2}n - 3 = 4 + \dfrac{2}{3}n$

e) $\dfrac{1}{4}x + \dfrac{1}{3}x = x + \dfrac{1}{6}$

f) $1.2m - 17 = 8 + 0.7m$

3. Solve and check each of the following.

a) $\dfrac{(m+1)}{2} = \dfrac{(m-2)}{5}$

b) $0.3(2x - 1) - 2.3 = 0.04(x + 5)$

c) $5(2x + 1.2) = 4(x - 1.5)$

d) $\dfrac{4m-3}{3} = \dfrac{3+m}{2}$

4. Create an equation for each of the following. Solve your equation. Then, check your solution.

a) The length of a rectangular garden is 1 m more than three times the garden's width. If the perimeter of the garden is 34 m, find its dimensions.

b) The cash register in the school canteen contains x quarters and $(30 - x)$ dimes. If the total value of the coins is $5.85, how many of each kind of coin are there?

c) An employee mixes peanuts worth $2.80/kg with cashews worth $3.60/kg. She sells the mixture for $3.12/kg. If she has 75 kg of peanuts, how many kilograms of cashews does she need?

d) Plane A leaves the airport. One hour later, Plane B leaves the same airport on the same course. It catches up to Plane A in $2\dfrac{1}{2}$ h. The average speed of Plane B is 300 km/h faster than Plane A. Find the speed of each plane.