1. Solve the following equations:

(a) \(4x - 3 = 5\) 

(b) \(3(x - 5) = 12\)

(c) \(\frac{x}{3} - 1 = 5\) 

(d) \(7 - x = 3\)

(e) \(3x + 4 = 5x - 1\)

(f) \(5(x - 2) - 3(x + 1) = -7\)

(g) \(\sqrt{x + 3} = 4\)

(h) \(3x^2 - 10 = 17\)
2. Solve the following equations:

(a) \( \frac{x}{3} + \frac{x}{2} = 1 \)

(b) \( \frac{3}{2x} + \frac{1}{x} = 1 \)

(c) \( 3\sqrt{2x-1} = 6 \)

(d) \( 3\sqrt{x+1} - 2 = 10 \)

(e) \( x^2 - 9 = 0 \)

(f) \( x^2 - x - 12 = 0 \)

(g) \( (2x-3)(x+4) = 0 \)

(h) \( x^2 = 7x - 10 \)
3. Evaluate:

(a) \( \frac{2}{3} - \frac{1}{2} \)  

(b) \( \frac{1}{2} + \frac{1}{4} \)

c) \( \frac{2}{3} \cdot \frac{9}{10} \)  

(d) \( \frac{2}{5} \div \frac{3}{7} \)

e) \( \frac{1}{5}^{1/3} \)  

(f) \( \frac{1}{2^{1/3}} \)
4. Find all solutions to the following system of equations:

\[
\begin{align*}
3x - y &= 8 \\
2x - 2y &= 4
\end{align*}
\]

5. Find all solutions to the following system of equations:

\[
\begin{align*}
x + y &= 7 \\
3x - 2y &= 1
\end{align*}
\]
6. Tom is 4 years older than Beth. The sum of their ages is 18. How old is Beth?

7. Susan is one year older than Mike. The product of their ages is 42. How old is Mike?
8. In 2001, the population of Kingston was 23,450. In 2003, the population had decreased to 23,174. Assume that the population is decreasing linearly.

(a) Find the equation for the line relating the year to the population of Kingston.

(b) What will the population of Kingston be in 2010?

(c) In what year will the population be 20,000?