

Fifth Set of Homework for Math 05

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Please note: You should fully justify your answers.

1 Solving Linear equation in one unknown

1. Is the given value a solution to the given equation?

(a) $2x - 7 = 3x - 11$; $x = -4$

(b) $3x - 4 = 8x - 9$; $x = 1$

(c) $3x - 4 = 8x - 9$; $x = -1$

(d) $3x - 7 = 2 - 7x$; $x = \frac{9}{10}$

(e) $5x + 10 = \frac{1}{2}$; $x = -\frac{1}{2}$

(f) $3x - 4 = 7x + -94$; $x = -9$

(g) $5(2x - 6) = 3x - 11$; $x = 3$

(h) $x^2 - x = 6$; $x = -3$

(i) $x^3 - 2x^2 = x - 2$; $x = 1$

(j) $x^3 - 2x^2 = x - 2$; $x = -1$

(k) $x^3 - 2x^2 = x - 2$; $x = 2$

2. Solve each of the following linear equations. After solving you should verify your solution by substituting into the equation.

(a) $2x = -8$

(b) $3x = 5$

(c) $-7x = 0$

(d) $-11x = 66$

(e) $-x = 3$

(f) $-5x = -75$

(g) $\frac{3}{2}x = 5$

(h) $\frac{5}{7}x = -\frac{3}{4}$

(i) $x + 3 = -5$

(j) $x - 7 = 11$

(k) $x - \frac{2}{3} = -\frac{5}{6}$

(l) $-5x + 7 = 0$

(m) $11x - 8 = -8$

(n) $7x - 8 = 13$

(o) $\frac{1}{2}x - 2 = -3$

(p) $-8x - 3 = 7$

(q) $-x + 3 = -\frac{5}{2}$

(r) $\frac{3}{4}x - \frac{2}{3} = -\frac{7}{12}$

3. What is the value of the real number a if $x = -2$ is a solution to the following equation:

$$ax = 3x - 4$$

4. Find the real number b if $x = 3$ is a solution to the following equation:

$$x^2 - 7 = bx$$