Chapter 1: Equations and Inequalities

Simplify the expression.

1). $25x + 14 - 17 - 6x$

2). $6y + 12x - 12y - 9x$

3). $6(x - 2) - 8x + 40$

4). $5(2x + 3) + 8(x - 6)$

Solve the equation.

1). $-6x - 8 = 10$

2). $-5 + 36x = 175$

3). $16 + \frac{x}{6} = 14$

4). $\frac{x-10}{-2} = 12$

5). $-7x - 14 = -2x + 11$

6). $-17x + 23 = -4 - 8x$

7). $2(x - 3) = 4x + 6$

8). $\frac{10(x-2)}{5} = 14$

9). $7 - 5x = 10 - (6x + 7)$

10). $4(x - 3) - x = x - 6$

11). $\dfrac{7x + 4}{3} = 2x - 1$ 12). $\dfrac{2x + 11}{3} = \dfrac{x + 5}{2}$

Word Problems

1. A New York City taxi charges $2.50, plus $0.40 for each fifth of a mile if it is not delayed by traffic. Write an expression for the coast of the ride if you travel x miles in the taxi with no traffic delays.

2. You buy a jacket, and the sales tax is 6%. The total cost is $74.49. Find the cost of the jacket before the tax.

3. It takes 3 hours for a train to travel 175 miles What is the average speed of the train?

Solve the inequality. Then graph the solution.

1). $15x + 8 > 9x - 22$

2). $-5 < 3 - x < 5$

3). $-4 \leq g + 8 < 6$

4). $m - 7 \geq -3$ or

$-2m + 1 \geq 11$

Solve the equation. Check for extraneous solutions.

1). $|3x + 2| = 7$
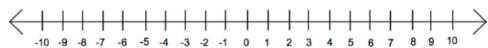
2). $|9x - 5| = 2x$

3). $3|2x - 3| - 5 = 4$

4). $-2|5y - 1| = -10$

Solve the inequality. Then graph the solution.

1). $|x - 5| \geq 1$

2). $|5 - 2x| > 7$

3). $|3v + 5| > 14$

4). $|4t - 3| \leq 7$