Assignment 6.5 – System of equations

Solve the system of equations using the substitution method. Check your solutions.

1.   The sum of five times a number, x, and another number, y, is 54.
        The difference of x and y is 2. Find x and y.

2.   Liam's football team scored a total of 43 separate times this season, with a mix of
        touchdowns and field goals. Each touchdown is worth 7 points, and each field goal is worth
        3 points. If the team scored a total of 301 points this season, how many touchdowns and
        field goals did they score?

3. Elizabeth and her sister, Jenna, earned money shoveling snow over winter break. Altogether, they shoveled for a total of 30 hours. Jenna charged her customers $12 per sidewalk, and her sister charged $11 per sidewalk. If they earned $347.50 total, how many hours did each girl spend shoveling?

Refresh your memory

Solve the system of equations

4. Solve by substitution.

$$\begin{cases} -7x - 2y = -13 \\ x - 2y = 11 \end{cases}$$

5. Solve by elimination

$$\begin{cases} -2x + 6y = 6 \\ -7x + 8y = -5 \end{cases}$$