Review Exercise Set 10

Exercise 1: Solve.

\[ 3x + 8 > 4x \]

Exercise 2: Solve.

\[ 13 - 5x \leq 3x \]

Exercise 3: Solve and graph.

\[ 2(6y - 3) > 3(5y + 4) \]

Exercise 4: Solve.

\[ 0.2(35 - x) \geq 3.3x \]

Exercise 5: Solve. A salesperson is paid the higher of either a base salary of $2000 per month or $1000 plus 7% commission on his monthly sales. How much does he have to sell a month in order to make more than the base salary.
Review Exercise Set 10 Answer Key

Exercise 1: Solve.

\[3x + 8 > 4x\]
\[3x - 3x + 8 > 4x - 3x\]
\[8 > x\]
\[x < 8\]

Exercise 2: Solve.

\[13 - 5x \leq 3x\]
\[13 - 5x + 5x \leq 3x + 5x\]
\[13 \leq 8x\]
\[13 \div 8 \leq 8x \div 8\]
\[1 \frac{5}{8} \leq x\]
\[x \geq 1 \frac{5}{8}\]

Exercise 3: Solve and graph.

\[2(6y - 3) > 3(5y + 4)\]
\[12y - 6 > 15y + 12\]
\[12y - 12y - 6 > 15y - 12y + 12\]
\[-6 > 3y + 12\]
\[-6 - 12 > 3y + 12 - 12\]
\[-18 > 3y\]
\[-18 \div 3 > 3y + 3\]
\[-6 > y\]
\[y < -6\]
Exercise 4: Solve.

\[0.2(35 - x) \geq 3.3x\]
\[7 - 0.2x \geq 3.3x\]
\[7 - 0.2x + 0.2x \geq 3.3x + 0.2x\]
\[7 \geq 3.5x\]
\[7 \div 3.5 \geq 3.5x \div 3.5\]
\[2 \geq x\]
\[x \leq 2\]

Exercise 5: Solve. A salesperson is paid the higher of either a base salary of $2000 per month or $1000 plus 7% commission on his monthly sales. How much does he have to sell a month in order to make more than the base salary?

Let \(x\) = monthly sales

\[1000 + 7\% \times (x) > 2000\]
\[1000 + 0.7x > 2000\]
\[1000 - 1000 + 0.7x > 2000 - 1000\]
\[0.7x > 1000\]
\[0.7x \div 0.7 > 1000 \div 0.7\]
\[x > 14,285.71\]

The salesperson would have to have monthly sales of more than $14,285.71 in order to exceed the base salary.