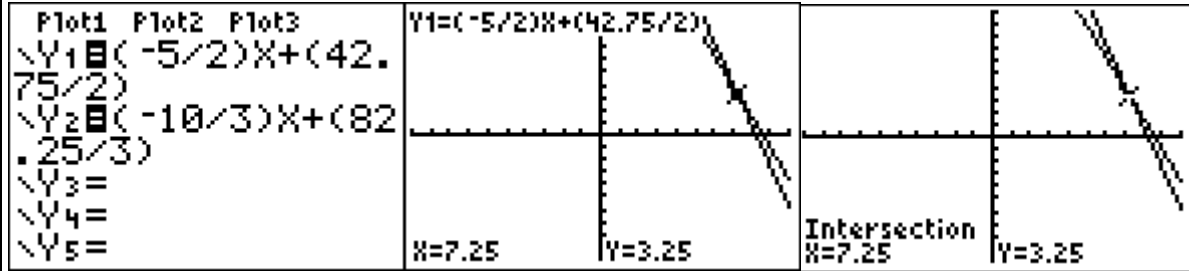1. What is the *x*-coordinate of the solution to the system of linear equations below?

$$\begin{cases} x + 2y = 9 \\ 5x - 2y = 0 \end{cases}$$

A. $1\frac{1}{2}$	Correct. The y – values were added together and eliminated then the x -value was found.
B. $2\frac{1}{4}$	Incorrect. Check your addition.
C. $3\frac{3}{4}$	Incorrect. Solve for the x - value.
D. $5\frac{5}{8}$	Incorrect. Check your addition.

2. At a toy store the total cost of 5 *X-Men* action figures and 2 *Yes Man* action figures is \$42.75, including tax. The total cost of 10 *X-Men* action figures and 3 Yes Man action figures is \$82.25, including tax. What is the cost for each *Yes Man* action figure?

A. \$3.25	Correct. The question was asking for the $y - value$. $$\begin{cases} 5x + 2y = 42.75 \\ 10x + 3y = 82.25 \end{cases} \rightarrow \begin{cases} -2(5x + 2y = 42.75) \\ 10x + 3y = 82.25 \end{cases} \rightarrow \begin{cases} -10x - 4y = -85.50 \\ 10x + 3y = 82.25 \end{cases} \rightarrow -y = -3.25 \Rightarrow, y = 3.25$$ 1st Check: By substituting the answer in the second equation for a true statement. 2nd Check: By solving for y, graphing on calculator, use TRACE key, and inputting the x-value. 3rd Check: 2nd CALC, 5 intersection.
B. \$7.25	Incorrect. Solve for Yes Man.
C. \$2.25	Incorrect. Check the addition and substitute back in to check your answer.
D. \$28.95	Incorrect. Eliminate the y - value instead of the x - value

3. Find the solution for this system of linear equations.

$$\begin{cases} y = -x - 5 \\ 2x - y = -13 \end{cases}$$

A. $(-1, -6)$	Incorrect. There may be a sign mistake. Substitute your answer in to check.
B. $(-1, -4)$	Incorrect. There may be a sign mistake. Substitute your answer in to check.
C. $(-6, -1)$	Incorrect. The $x-$ value is correct but there is an error calculating the $y - value$.
D. $(-6,1)$	Correct. $$\begin{cases} y = -x - 5 \\ 2x - y = -13 \end{cases} \rightarrow \begin{cases} y = (-x - 5) \\ 2x - y = -13 \end{cases} \rightarrow 2x - (-x - 5) = -13 \rightarrow$$ $$2x - (-x - 5) = -13 \rightarrow$$ $$2x + x + 5 = -13 \rightarrow \begin{matrix} 3x + 5 = -13 \\ -5 = -5 \end{matrix} \rightarrow \frac{3}{3}x = -\frac{18}{3} \rightarrow x = -6 \rightarrow y = -x - 5 \rightarrow$$ $$y = -(-6) - 5 \rightarrow y = 1 \rightarrow \text{Solution is (-6, 1). Notice that } -(-6) \text{ is 6.}$$ Did you check your answer on the calculator?

4. The Metrorail collected $887.50 in fares in one day. The price of a regular fare was $1.25, and the price of a discount fare was $0.60. If a total of 775 people paid the fares on this bus, how many paid the discounted fare?

A. 650	Incorrect. This is the number of people purchasing the regular fare. Find the number of people paying the discounted fare.
B. 266	Incorrect. There is a calculation error.
C. 125	Correct. The question asked for the y- value, the number of riders paying the discount fare. $$\begin{cases} x + y = 775 \\ \$1.25x + \$0.60y = \$887.50 \end{cases} \rightarrow \begin{cases} -1.25(x + y = 775) \\ 1.25x + 0.60y = 887.50 \end{cases} \rightarrow$$ $$\begin{cases} -1.25x - 1.25y = -968.75 \\ 1.25x + 0.60y = 887.50 \end{cases} \rightarrow$$ $$-0.65y = -81.25 \rightarrow y = 125$$ 1st Check: By substituting the answer in the second equation for a true statement. 2nd Check: By solving for y, graphing on calculator, use TRACE key, and inputting the x-value. 3rd Check: 2nd CALC, 5 intersection
D. 15	Incorrect. There is an algebra mistake in the elimination step.