

Algebra 1 Bellwork Tuesday, January 27, 2015
Solve each system of equations

1.

$$x + y = 50$$

$$0.09x + 0.17y = 7$$

2.

$$36(x - y) = 288$$

$$24(x + y) = 288$$

1

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Answers

1.

$$0.09(x + y = 50)$$

$$0.09x + 0.17y = 7$$

$$\rightarrow -0.09x + 0.09y = 4.5$$

$$\begin{array}{r} 0.08y = 2.5 \\ \hline 0.08 \quad 0.08 \end{array}$$

$$y = 31.25$$

$$\rightarrow \begin{array}{r} x + 31.25 = 50 \\ -31.25 \quad -31.25 \end{array}$$

$$x = 18.75$$

$$(18.75, 31.25)$$

2.

$$36(x - y) = 288$$

$$24(x + y) = 288$$

$$\begin{array}{l} 2(36x - 36y = 288) \\ 3(24x + 24y = 288) \end{array}$$

$$\begin{array}{r} 72x - 72y = 576 \\ + \quad 72x + 72y = 864 \\ \hline \end{array}$$

$$\begin{array}{r} 144x = 1440 \\ \hline 144 \quad 144 \end{array}$$

$$x = 10$$

$$\rightarrow 24(10 + y) = 288$$

$$\begin{array}{r} 240 + 24y = 288 \\ -240 \quad -240 \end{array}$$

$$\begin{array}{r} 24y = 48 \\ \hline 24 \quad 24 \end{array}$$

$$y = 2$$

$$(10, 2)$$