

Algebra 1 Bellwork Friday, February 19, 2016

Solve each system of equations

1.

$$\begin{aligned}x + y &= 50 \\0.09x + 0.17y &= 7\end{aligned}$$

2.

$$\begin{aligned}36(x - y) &= 288 \\24(x + y) &= 288\end{aligned}$$

3. Solve for y given $A = B$ and

$$\begin{aligned}A &= 5200 + 8y \\B &= 24y\end{aligned}$$

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ANSWERS

Solve each system of equations

1.

$$\begin{aligned}0.09(x + y) &= 50 \\0.09x + 0.17y &= 7 \\[10pt] 0.09x + 0.09y &= 4.5 \\0.09x + 0.17y &= 7 \\[-10pt] - & \\-0.08y &= -2.5 \\y &= 31.25\end{aligned}$$

$$\begin{aligned}x + 31.25 &= 50 \\x &= 18.75\end{aligned}$$

$$(18.75, 31.25)$$

2.

$$\begin{aligned}36(x - y) &= 288 \\24(x + y) &= 288 \\[10pt] \frac{36(x - y)}{36} &= \frac{288}{36} \\x - y &= 8 \\[10pt] \frac{24(x + y)}{24} &= \frac{288}{24} \\x + y &= 12 \\[10pt] x - y &= 8 \\+ x + y &= 12 \\[10pt] \hline 2x &= 20 \\x &= 10 \\[10pt] 10 + y &= 12 \\y &= 2\end{aligned}$$

3. Solve for y given $A = B$ and

$$A = 5200 + 8y$$

$$B = 24y$$

$$\begin{aligned}5200 + 8y &= 24y \\-8y &= -8y \\5200 &= 16y \\[10pt] \hline 16 & 16\end{aligned}$$

$$14 = 325$$