

1) $N + D = 20$

$.05N + .10D = 1.75$

2) $(N + D = 20)(-10) = -10N - 10D = -200$

$$\begin{array}{r}
 (.05N + .10D = 1.75)(100) = 5N + 10D = 175 \\
 \underline{-5N} \qquad \qquad \qquad = -25 \\
 N = 5
 \end{array}$$

3) If $N = 5$ and $N + D = 20$, then dimes = 15

4) $P + D = 39$

$.01P + .10D = 1.83$

5) $(P + D = 39)(-10) = -10P - 10D = -390$

$$\begin{array}{r}
 (.01P + .10D = 1.83)(100) = P + 10D = 183 \\
 \underline{-9P} \qquad \qquad \qquad = -207 \\
 P = 23
 \end{array}$$

6) If $P = 23$ and $P + D = 39$, then dimes = 16

7) $N + D = 19$

$.05N + .10D = 1.25$

8) $(N + D = 19)(-10) = -10N - 10D = -190$

$$\begin{array}{r}
 (.05N + .10D = 1.25)(100) = 5N + 10D = 125 \\
 \underline{-5N} \qquad \qquad \qquad = -65 \\
 N = 13
 \end{array}$$

9) If $N = 13$ and $N + D = 19$, then $D = 6$.

10) $Q + N = 40$

$.25Q + .05N = 5.00$

11) $(Q + N = 40)(-5) = -5Q - 5N = -200$

$$\begin{array}{r}
 (.25Q + .05N = 5.00)(100) = 25Q + 5N = 500 \\
 \underline{20Q} \qquad \qquad \qquad = 300 \\
 Q = 15
 \end{array}$$

12) If $Q = 15$ and $Q + N = 40$, then $N = 25$

1) $.05N + .10D = .85, \quad N + D = 12$

$$\begin{array}{r}
 2) \quad 5N + 10D = 85 \\
 \quad -5N - 5D = -60 \\
 \hline
 \quad \quad 5D = 25, \quad D = 5
 \end{array}$$

3) $N + (5) = 12, \quad N = 7$

$.05(7) + .10(5) = .85$

$.35 + .50 = .85 \checkmark$

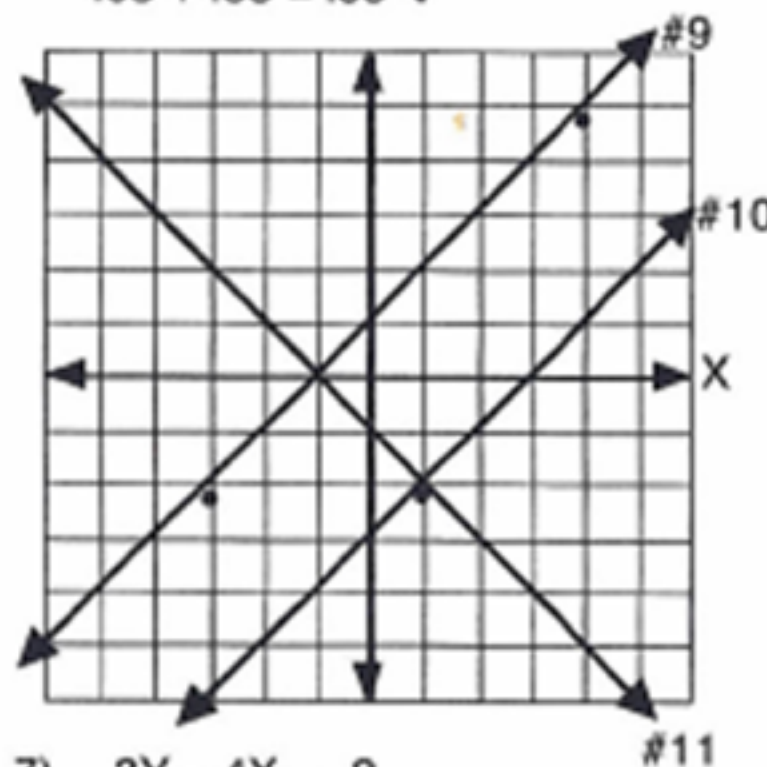
4) $.01P + .05N = .38, \quad P + N = 10$

$$\begin{array}{r}
 5) \quad P + 5N = 38 \\
 \quad -5P - 5N = -50 \\
 \hline
 \quad -4P = -12, \quad P = 3
 \end{array}$$

6) $(3) + N = 10, \quad N = 7$

$.01(3) + .05(7) = .38$

$.03 + .35 = .38 \checkmark$



$$\begin{array}{r}
 7) \quad 3Y - 4X = 2 \\
 \quad -2Y + 4X = 12 \\
 \hline
 \quad \quad Y = 14
 \end{array}$$

8) $(14) - 2X = -6, \quad -2X = -20, \quad X = 10$

$$\begin{array}{r}
 9) \quad \frac{-2 - 5}{-3 - 4} = \frac{-7}{-7} = 1 = m \\
 (-2) = 1(-3) + b, \quad b = 1, \text{ so } Y = X + 1 \\
 \text{or } X - Y = -1
 \end{array}$$

10) $(-2) = 1(1) + b, \quad b = -3, \text{ so } Y = X - 3$
or $X - Y = 3$

11) $(-2) = -1(1) + b, \quad b = -1, \text{ so } Y = -X - 1$
or $X + Y = -1$

12) $24'' = 2', \quad Y = 2X + 2$

13) $Y = 2(3) + 2, \quad Y = 8 \text{ ft.}$

14) $Y = 3(9) + 2, \quad Y = 29 \text{ ft.}$

15) $8 \times (-5) - 3 \cdot 9 = -40 - 3 \cdot 9 = -52$

16) 4th

17) no

18) yes

19) 169

20) 8

1) $.05N + .10D = .60, \quad N + D = 9$

$$\begin{array}{r}
 2) \quad 5N + 10D = 60 \\
 \quad -5N - 5D = -45 \\
 \hline
 \quad \quad 5D = 15, \quad D = 3
 \end{array}$$

3) $N + (3) = 9, \quad N = 6$

$.05(6) + .10(3) = .60$

$.30 + .30 = .60 \checkmark$

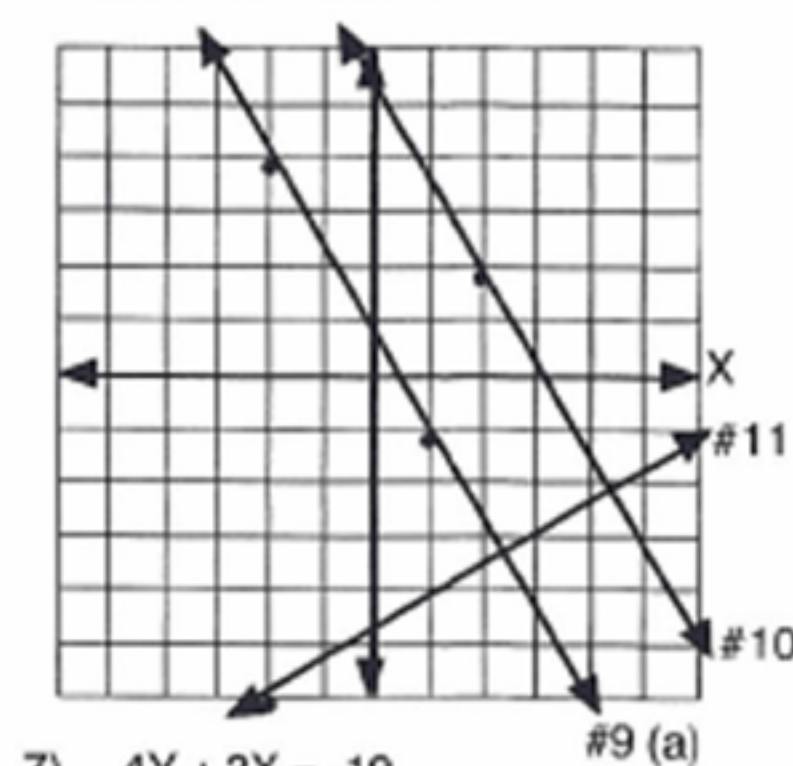
4) $.01P + .05N = .26, \quad P + N = 6$

$$\begin{array}{r}
 5) \quad P + 5N = 26 \\
 \quad -5P - 5N = -30 \\
 \hline
 \quad -4P = -4, \quad P = 1
 \end{array}$$

6) $(1) + N = 6, \quad N = 5$

$.01(1) + .05(5) = .26$

$.01 + .25 = .26 \checkmark$



$$\begin{array}{r}
 7) \quad 4Y + 3X = -19 \\
 \quad Y - 3X = -1 \\
 \hline
 \quad 5Y = -20, \quad Y = -4
 \end{array}$$

8) $(-4) - 3X = -1, \quad -3X = 3, \quad X = -1$

$$\begin{array}{r}
 9) \quad -\frac{5}{3} = m \text{ (from graph)} \\
 (-1) = -5/3(1) + b, \quad b = 2/3, \\
 \text{so } Y = -5/3 X + 2/3 \text{ or } 5X + 3Y = 2
 \end{array}$$

10) $(2) = -5/3(2) + b, \quad b = 16/3, \text{ so } Y = -5/3 X + 16/3$
or $5X + 3Y = 16$

11) $(-6) = 3/5(-2) + b, \quad b = -24/5, \text{ so } Y = 3/5 X - 24/5$
or $3X - 5Y = 24$

12) $Y = 2X + 4$

13) $Y = X + 8$

$$\begin{array}{r}
 14) \quad Y = 2X + 4 \\
 \quad -Y = -X - 8 \\
 \hline
 \quad 0 = X - 4, \quad X = 4
 \end{array}$$

15) $Y = 4 + 8, \quad Y = 12$

16) $Y = 2(12) + 4 = 28, \quad Y = 12 + 8 = 20$

17) $-(-4)^2 + (-3)^2 = -16 + 9 = -7$

18) 3rd

19) no

20) yes