

14E

1) $(-5, 1)$

2) $-X - 4 = X + 6$
 $-10 = 2X$
 $X = -5$

3) $-5 + Y = -4$
 $Y = 1$

4) $(-1, 0)$

5) $4X = 4 = -2X - 2$
 $6X = -6$
 $X = -1$

6) $Y - 4(-1) = 4$
 $Y + 4 = 4$
 $Y = 0$

7) $m = \frac{-2 - 1}{3 - (-1)} = \frac{-3}{4}$

8) $1 = -3/4(-1) + b$
 $1 = 3/4 + b$
 $1/4 = b$

9) $Y = -3/4X + 1/4$
 $3X + 4Y = 1$

10) $m = 3/5$

11) $-2 = 3/5(-3) + b$
 $-2 = -9/5 + b$
 $-2 + 1 4/5 = b = -1/5$

12) $Y = 3/5X - 1/5$
 $3X - 5Y = 1$

13) $1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144, 169, 196, 225$
 $1^2, 2^2, 3^2, 4^2, 5^2, 6^2, 7^2, 8^2, 9^2, 10^2, 11^2, 12^2, 13^2, 14^2, 15^2$

14) 804 miles

15) $804 \div 50 = 16.08$ hours, $16 + 8/100$, $16 + 5/60$
 $16:05 + 4:42 = 20:47$, 8:47 PM

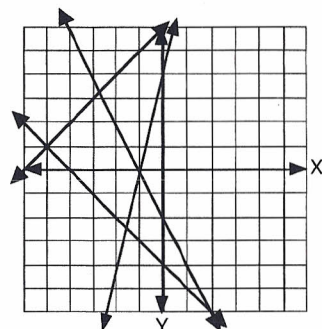
16) $804 \div 25 = 32.16$ gallons,
 $(32.16)(1.289) = \$41.45$

17) .368

18) $9/10 = 90/100 \approx 90\%$

19) $(1 - 3) - 3 = 1 - (2 - 3)$
 $-1 - 3 = 1 - (-1)$
 $-4 \neq 2$
 No

20) 3.888

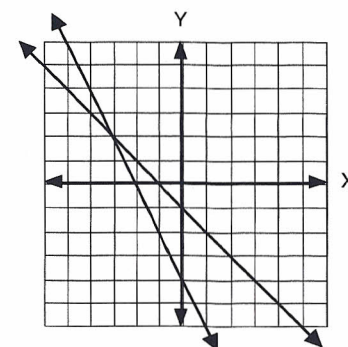


15A

1) $(-3, 2)$

2) $X + Y = -1$
 $-(2X + Y = -4)$
 $-X = 3$
 $X = -3$

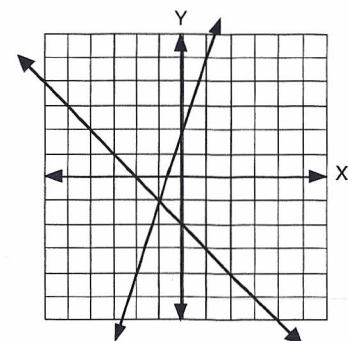
3) $-3 + Y = -1$
 $Y = 2$



4) $(-1, -1)$

5) $X + Y = -2$
 $-(3X - Y = -2)$
 $4X = -4$
 $X = -1$

6) $-1 + Y = -2$
 $Y = -1$



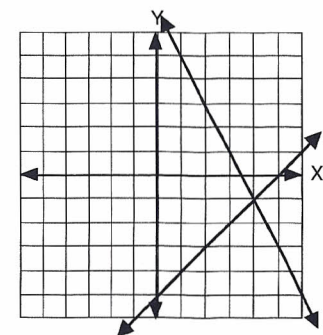
7) $(4, -1)$

8) $X - Y = 5$
 $+(2X + Y = 7)$
 $3X = 12$
 $X = 4$

9) $4 - Y = 5$
 $4 - 5 = Y$
 $-1 = Y$

10) $4X + 6Y = 36$
 $-(4X + Y = 6)$
 $5Y = 30$
 $Y = 6$

$4X + 6 = 6$ (0, 6)
 $4X = 0$
 $X = 0$

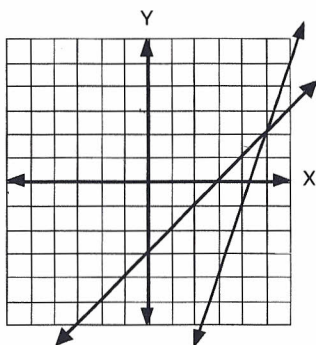


15B

1) (5, 2)

$$\begin{array}{r} X - Y = 3 \\ -(3X - Y = 13) \\ \hline -2X = -10 \\ X = 5 \end{array}$$

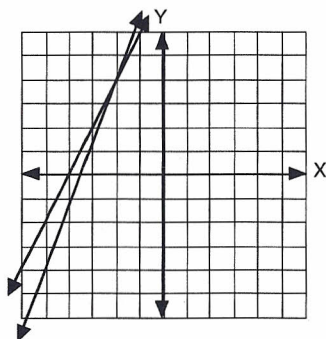
$$\begin{array}{r} 5 - Y = 3 \\ Y = 2 \end{array}$$



4) (-2, 4)

$$\begin{array}{r} 3X - Y = -10 \\ -(2X - Y = -8) \\ \hline X = -2 \end{array}$$

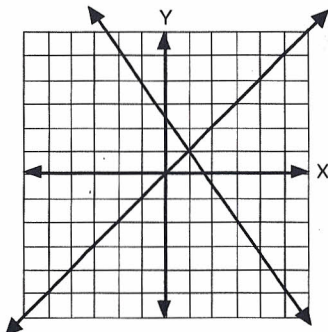
$$\begin{array}{r} 2(-2) - Y = -8 \\ -4 - Y = -8 \\ -Y = -4 \\ Y = 4 \end{array}$$



7) (1, 1)

$$\begin{array}{r} 3X + 2Y = 5 \\ +(2X - 2Y = 0) \\ \hline 5X = 5 \\ X = 1 \end{array}$$

$$\begin{array}{r} Y = X \\ Y = 1 \end{array}$$



$$\begin{array}{r} X + Y = -3 \\ +(3X - Y = -1) \\ \hline 4X = -4 \\ X = -1 \end{array} \quad \begin{array}{r} -1 + Y = -3 \\ Y = -2 \end{array} \quad (-1, -2)$$

15C

1) (-2, 2)

$$\begin{array}{r} 2Y + 3X = -2 \\ +6Y - 3X = 18 \\ \hline 8Y = 16, \quad Y = 2 \end{array}$$

$$\begin{array}{r} 2(2) - X = 6 \\ 4 - X = 6, \quad X = -2 \end{array}$$

4) (1, -1)

$$\begin{array}{r} Y + 3X = 2 \\ -Y + X = 2 \\ \hline 4X = 4, \quad X = 1 \end{array}$$

$$\begin{array}{r} Y - 1 = -2 \\ Y = -1 \end{array}$$

7) $Y < -3/2X - 3$

8) on the graph

9) no (see graph)

10) $m = 1/2$

$$\begin{array}{r} 1 = 1/2(-1) + b \\ 1 = -1/2 + b \\ b = 3/2 \end{array}$$

$$\begin{array}{r} Y = 1/2X + 3/2 \\ X - 2Y = -3 \end{array}$$

$$\begin{array}{l} 1, 4, 9, 16, 25, 36, 49, 64, 81, 100, \\ 121, 144, 169, 196, 225 \\ 1^2, 2^2, 3^2, 4^2, 5^2, 6^2, 7^2, 8^2, 9^2, 10^2, \\ 11^2, 12^2, 13^2, 14^2, 15^2 \end{array}$$

$$6N - 4 = \frac{10N}{2}$$

$$\begin{array}{r} 6N - 4 = 5N \\ N = 4 \end{array}$$

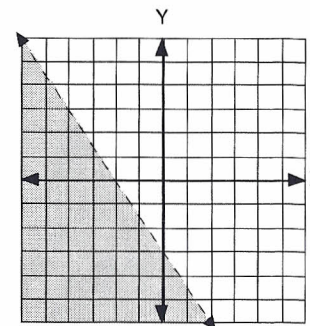
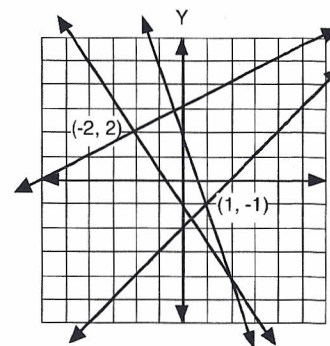
$$4^2 - 2(4) + |3 - 4| = 16 - 8 + |-1| = 8 + 1 = 9$$

$$.14 \times 25 = 3.5$$

$$Wf = 8/16 = 1/2$$

19) 1.308

$$20) 3/4 \div 5/6 = 3/4 \times 6/5 = 18/20 = 9/10$$



15D

1) (3, 2)

$$\begin{array}{r} 3Y + 2X = 12 \\ + 8Y - 2X = 10 \\ \hline 11Y = 22, \quad Y = 2 \end{array}$$

$$\begin{array}{r} 3(2) + 2X = 12 \\ X = 3 \end{array}$$

4) (2, 2)

$$\begin{array}{r} X + Y = 4 \\ - 2X - Y = -6 \\ \hline -X = -2, \quad X = 2 \end{array}$$

$$\begin{array}{r} 2 + Y = 4 \\ Y = 2 \end{array}$$

7) $Y \geq 4/5X + 2$

8) on the graph

9) no (from graph)

10) $m = -2$

$$\begin{array}{r} 1 = -2(-1) + b \\ 1 = 2 + b \\ b = -1 \end{array}$$

$$\begin{array}{r} Y = -2X - 1 \\ 2X + Y = -1 \end{array}$$

$$\begin{array}{r} 13) \quad 1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144, 169, 196, 225 \\ \quad 1^2, 2^2, 3^2, 4^2, 5^2, 6^2, 7^2, 8^2, 9^2, 10^2, 11^2, 12^2, 13^2, 14^2, 15^2 \end{array}$$

14) $3N - 4N + 8 = 3N$

$$\begin{array}{r} 15) \quad 4N = 8 \\ \quad N = 2 \end{array}$$

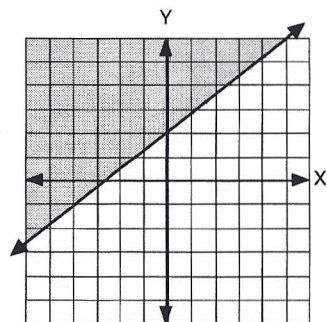
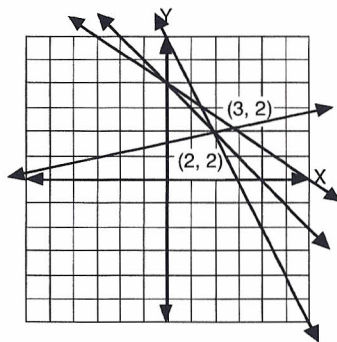
16) $3(2)^2 - 2 \div \frac{1}{4} - 3 = 3(4) - 2 \div \frac{1}{4} = 12 - 2 = 10$

17) $48/100 \times 32 = 15 \frac{36}{100} = 15 \frac{9}{25}$

18) $Wf = 5/75 = 1/15$

19) $21.8 \div .4 = 54.5$

20) $2/7 \div 1/2 = 2/7 \times 2/1 = 4/7$



15E

1) (1, -2)

$$\begin{array}{r} -2Y + 2X = 6 \\ + Y - 2X = -4 \\ \hline -Y = 2, \quad Y = -2 \end{array}$$

$$\begin{array}{r} -2 - X = -3 \\ X = 1 \end{array}$$

4) (-3, 1)

$$\begin{array}{r} X - 2Y = -5 \\ + 2X + 2Y = -4 \\ \hline 3X = -9, \quad X = -3 \end{array}$$

$$\begin{array}{r} -3 + Y = -2 \\ Y = 1 \end{array}$$

7) $Y < 3X - 4$

8) on the graph

9) no

10) $m = 2$

$$\begin{array}{r} 11) \quad 1 = 2(1) + b \\ \quad 1 = 2 + b \\ \quad b = -1 \end{array}$$

$$\begin{array}{r} 12) \quad Y = 2X - 1 \\ \quad 2X - Y = 1 \end{array}$$

$$\begin{array}{r} 13) \quad 1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144, 169, 196, 225 \\ \quad 1^2, 2^2, 3^2, 4^2, 5^2, 6^2, 7^2, 8^2, 9^2, 10^2, 11^2, 12^2, 13^2, 14^2, 15^2 \end{array}$$

14) $N - 2 + N + 5N = 6N + 1$

$$\begin{array}{r} 15) \quad 7N - 2 = 6N + 1 \\ \quad N = 3 \end{array}$$

16) $5(3) - 4 + 3(3) \div 2 = 15 - 4 + 9/2 = 15 - 4 + 4 \frac{1}{2} = 15 \frac{1}{2}$

17) $150/100 \times 18 = 27$

18) $95 \div 3 = 31.67 \quad 31.67 \times 2 = 63.34$ (Using a calculator without rounding the first step will give 63.33)

19) $3.14 \times 4.16 = 13.0624$

20) $9 \div 16 = .5625$ rounds to .56

