

16E

1) $.05N + .10D = 1.10$, $N + D = 14$

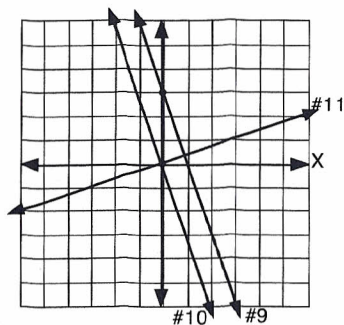
2)
$$\begin{array}{r} 5N + 10D = 110 \\ -5N - 5D = -70 \\ \hline 5D = 40, \quad D = 8 \end{array}$$

3) $N + (8) = 14$, $N = 6$
 $.05(6) + .10(8) = 1.10$
 $.30 + .80 = 1.10$ ✓

4) $.01P + .05N = .20$, $P + N = 8$

5)
$$\begin{array}{r} P + 5N = 20 \\ -5P - 5N = -40 \\ \hline -4P = -20, \quad P = 5 \end{array}$$

6) $(5) + N = 8$, $N = 3$
 $.01(5) + .05(3) = .20$
 $.05 + .15 = .20$ ✓



7)
$$\begin{array}{r} (-4X - 4) = 2X + 2 \\ -6X = 6, \quad X = -1 \end{array}$$

8) $Y = 2(-1) + 2$, $Y = 0$

9) on the graph

10) $(0) = -3(0) + b$, $b = 0$
 $Y = -3X$ or $3X + Y = 0$

11) $Y = 1/3 X$ or $X - 3Y = 0$

12) $T = 5M + 100$

13) $T = 5(15) + 100 = 175^\circ\text{C}$

14) $T = 10M + 100$, $T = 10(15) + 100 = 250^\circ\text{C}$

15) $-12^2 + (-5)^2 = -144 + 25 = -119$

16) 2nd

17) yes

18) no

19) 625

20) 15

17A

1) N , $N + 1$, $N + 2$

2) $N + (N + 1) + (N + 2) + 4 = 4(N + 1)$

3)
$$\begin{array}{r} 3N + 7 = 4N + 4 \\ 7 - 4 = 4N - 3N, \quad 3 = N \\ 3, 4, 5 \end{array}$$

4)
$$\begin{array}{r} 3 + (4) + (5) + 4 = 4(4) \\ 16 = 16 \quad \checkmark \end{array}$$

5) N , $N + 2$, $N + 4$

6) $N + (N + 2) = (N + 4) + 4$

7)
$$\begin{array}{r} 2N + 2 = N + 8, \\ N = 6 \quad 6, 8, 10 \end{array}$$

8)
$$\begin{array}{r} (6) + (8) = (10) + (4) \\ 14 = 14 \quad \checkmark \end{array}$$

9) N , $N + 1$, $N + 2$

10) $5(N + 1) = 3[N + (N + 2)] + 2$

11)
$$\begin{array}{r} 5N + 5 = 3[2N + 2] + 2 \\ 5N + 5 = 6N + 6 + 2 \\ 5 - 8 = N, \quad N = -3 \\ -3, -2, -1 \end{array}$$

12)
$$\begin{array}{r} 5(-2) = 3[(-3) + (-1)] + 2 \\ -10 = -10 \quad \checkmark \end{array}$$

13) N , $N + 2$, $N + 4$

14) $N + (N + 4) = 3(N + 2) + 3$

15)
$$\begin{array}{r} 2N + 4 = 3N + 6 + 3 \\ 4 - 9 = N, \quad N = -5 \\ -5, -3, -1 \end{array}$$

16)
$$\begin{array}{r} (-5) + (-1) = 3(-3) + 3 \\ -6 = -6 \quad \checkmark \end{array}$$

17B

1) N , $N + 2$, $N + 4$

2) $3(N + 4) = 2(N + N + 2) + 2$

3)
$$\begin{array}{r} 3N + 12 = 2(2N + 2) + 2 \\ 3N + 12 = 4N + 4 + 2 \\ 12 - 6 = 4N - 3N, \quad N = 6 \\ 6, 8, 10 \end{array}$$

4)
$$\begin{array}{r} 3(10) = 2(6 + 8) + 2 \\ 30 = 30 \quad \checkmark \end{array}$$

5) N , $N + 1$, $N + 2$

6) $N + (N + 2) = 20(N + 1)$

7)
$$\begin{array}{r} 2N + 2 = 20N + 20 \\ -18 = 18N, \quad N = -1 \\ -1, 0, 1 \end{array}$$

8)
$$\begin{array}{r} (-1) + (1) = 20(0) \\ 0 = 0 \quad \checkmark \end{array}$$

9) N , $N + 1$, $N + 2$

10) $5(N) + 2(N + 1) = 6(N + 2)$

11)
$$\begin{array}{r} 5N + 2N + 2 = 6N + 12 \\ 7N + 2 = 6N + 12, \quad N = 10 \\ 10, 11, 12 \end{array}$$

12)
$$\begin{array}{r} 5(10) + 2(11) = 6(12) \\ 72 = 72 \quad \checkmark \end{array}$$

13) N , $N + 2$, $N + 4$

14) $N + (N + 4) = 3(N + 2) + 19$

15)
$$\begin{array}{r} 2N + 4 = 3N + 6 + 19 \\ 4 - 25 = N, \quad N = -21 \\ -21, -19, -17 \end{array}$$

16)
$$\begin{array}{r} (-21) + (-17) = 3(-19) + 19 \\ -38 = -38 \quad \checkmark \end{array}$$

17C

1) N , $N + 2$, $N + 4$

2) $5(N + 4) - 4N = 4(N + 2)$

3)
$$\begin{array}{r} 5N + 20 - 4N = 4N + 8 \\ N + 20 = 4N + 8 \\ 12 = 3N, \quad N = 4 \\ 4, 6, 8 \end{array}$$

4) N , $N + 1$, $N + 2$

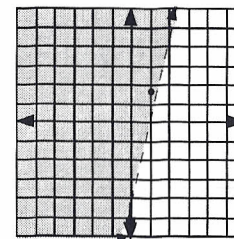
5) $6(N + 1) + 4N = 9(N + 2) - 4$

6)
$$\begin{array}{r} 6N + 6 + 4N = 9N + 18 - 4 \\ 10N + 6 = 9N + 14, \quad N = 8 \\ 8, 9, 10 \end{array}$$

7) $.05N + .10D = .80$, $N + D = 11$

$$\begin{array}{r} 5N + 10D = 80 \\ -5N - 5D = -55 \\ \hline 5D = 25, \quad D = 5 \\ N + (5) = 11, \quad .05(6) + .10(5) = .80 \\ N = 6, \quad .30 + .50 = .80 \quad \checkmark \end{array}$$

8) $Y > 4X - 4$



9) see graph

10) yes

$$\begin{array}{r} 4Y + X = 11 \\ -4Y + 6X = -18 \\ \hline 7X = -7 \\ X = -1 \end{array} \quad \begin{array}{r} 4Y + (-1) = 11 \\ 4Y = 12 \\ Y = 3 \end{array}$$

12) $4Y + X = 11 \Rightarrow Y = -1/4 X + 11/4$
 $(1) = -1/4(0) + b$, $b = 1$
 $Y = -1/4 X + 1$ or $X + 4Y = 4$

13) 21

14) $4(N + 2) = 23 + N$

15) $4N + 8 = 23 + N$, $3N = 15$
 $N = 5$

16) $[2(5 - 3) + 1] \div 5 = (4 + 1) \div 5 = 1$

17) $1/2 + 2/3 = 3/6 + 4/6 = 7/6 = 1 \frac{1}{6}$

18) $.75 \times 250 = 187.5$

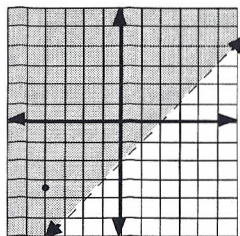
19) $180 - 16A = 1000$, $-820 = 16A$
 $A = -51.25$

20) $2 \times 2 \times 2 \times 2 \times 2 \times 3$

17D

- 1) $N, N+2, N+4$
 2) $4(N+4) + 1 = 3N + 2(N+2)$
 3) $4N + 16 + 1 = 3N + 2N + 4$
 $17 - 4 = 5N - 4N, N = 13$
 $13, 15, 17$
 4) $N, N+1, N+2$
 5) $3N - 5(N+1) = -1$
 $3N - 5N - 5 = -1$
 $-2N = 4, N = -2$
 $-2, -1, 0$
 7) $.05N + .10D = 1.10, N + D = 15$
 $5N + 10D = 110$
 $-5N - 5D = -75$
 $5D = 35, D = 7$
 $N + (7) = 15$
 $N = 8$
 $.05(8) + .10(7) = 1.10$
 $.40 + .70 = 1.10 \checkmark$

8) $Y > X - 2$



9) see graph

10) yes

$$11) \begin{array}{r} 5Y + 6X = -19 \\ -5Y - 3X = 22 \\ \hline 3X = 3 \\ X = 1 \end{array} \quad \begin{array}{r} 5Y + 6(1) = -19 \\ 5Y = -25 \\ Y = -5 \end{array}$$

$$12) 5Y + 6X = -19 \Rightarrow Y = -6/5 X - 19/5$$

$$(1) = 5/6(-4) + b, b = 13/3$$

$$Y = 5/6 X + 13/3 \text{ or } 5X - 6Y = -26$$

13) 24

14) $2N - 6 + 8N = 4$

15) $10N = 10, N = 1$

16) $3(1) - (1)^2 + 13 - 4(1) = 3 - 1 + 13 - 4 = 2 + 9 = 11$

17) $1/6 + 3/4 = 2/12 + 9/12 = 11/12$

18) $.13 \times 180 = 23.4$

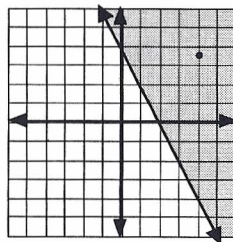
19) $2A = 36, A = 18$

20) $3 \times 3 \times 3 \times 5$

17E

- 1) $N, N+2, N+4$
 2) $5N + 3(N+4) = 7(N+2) + 10$
 $5N + 3N + 12 = 7N + 14 + 10$
 $8N - 7N = 24 - 12, N = 12$
 $12, 14, 16$
 4) $N, N+1, N+2$
 5) $7(N+2) - 5(N+1) = 4(N) \pm 1$
 $7N + 14 - 5N - 5 = 4N + 1$
 $2N + 9 = 4N + 1$
 $8 = 2N, N = 4$
 $4, 5, 6$
 7) $.10D + .25Q = 1.00, D + Q = 7$
 $10D + 25Q = 100$
 $-10D - 10Q = -70$
 $15Q = 30, Q = 2$
 $D + (2) = 7$
 $D = 5$
 $.10(5) + .25(2) = 1.00$
 $.50 + .50 = 1.00 \checkmark$

8) $Y \geq -2X + 4$



9) see graph

10) yes

$$11) \begin{array}{l} Y + X = 0 \Rightarrow Y = -X \\ (-X) - 3X = -4, -4X = -4 \\ X = 1 \quad Y + (1) = 0 \\ Y = -1 \end{array}$$

$$12) Y - 3X = -4 \Rightarrow Y = 3X - 4$$

$$(-2) = 3(2) + b, b = -8$$

$$Y = 3X - 8 \text{ or } 3X - Y = 8$$

13) $15, 30, 45, 60, 75$
 $25, 50, 75$ LCM = 75

14) $2[1 + (-8)] = 18 - 2N$

15) $2[-7] - 18 = -2N$
 $-14 - 18 = -2N$
 $-32 = -2N, N = 16$

16) $3(16) - 5 + 6(16) + (10 - 6) =$
 $48 - 5 + 96 + 4 = 143$

17) $2/7 - 1/14 = 4/14 - 1/14 = 3/14$

18) $1.20 \times 100 = 120$

19) $5X + 15 = 45$
 $5X = 30, X = 6$

20) $2 \times 3 \times 17$

18A

1) 225

2) ± 13

3) 64

4) ± 10

5) 256

6) ± 12

7) $45+2 = 47$

8) $8^4+7 = 8^{11}$

9) $87-3 = 8^4$

10) $3^8+4 = 3^{12}$

11) $B^2+3+5 = B^{10}$

12) $C^1+3D^5+4+2 = C^4D^{11}$

13) 8^X+Y

14) $M^{10X-3X} = M^{7X}$

15) $8^9+10-3 = 8^{16}$

16) $X^5Y - 2Y = X^3Y$

18B

1) 625

2) $2 \times 2 \times 2 = 8$

3) 81

4) $7 \times 7 \times 7 = 343$

5) 289

6) ± 9

7) $5^3+6 = 5^9$

8) $6^4+2 = 6^6$

9) $18^{13}-9 = 18^4$

10) $4^8+5 = 4^{13}$

11) 16

12) $C^1+2+3 = C^6$

13) $E^5F^3+4+2 = E^5F^9$

14) $B^6+7C^1+3 = B^{13}C^4$

15) $Y^{10+5-3} = Y^{12}$

16) $A^8X-3X = A^5X$