

Test 14

- 1) D
- 2) B
- 3) E

$$\begin{array}{l} Y + (Y - 2) = 8 \\ 2Y - 2 = 8, Y = 5 \end{array} \quad \begin{array}{l} (5) + X = 8 \\ X = 3 \end{array}$$
- 4) E
- 5) A

$$\begin{array}{l} Y + 5 = (-8Y + 2) \\ 9Y = -3, Y = -1/3 \end{array} \quad \begin{array}{l} (-1/3) + 5 = X \\ X = 4 \frac{2}{3} \end{array}$$
- 6) D
- 7) E
- 8) B

$$\begin{array}{l} X = -Y + 8 \\ 2(-Y + 8) - Y = 7 \\ -2Y + 16 - Y = 7 \\ -3Y = -9, Y = 3 \end{array} \quad \begin{array}{l} X + (3) = 8 \\ X = 5 \end{array}$$
- 9) A

$$\begin{array}{l} 2X + (X + 2) = 14 \\ 3X + 2 = 14 \\ 3X = 12, X = 4 \end{array} \quad \begin{array}{l} Y = (4) + 2 \\ Y = 6 \end{array}$$
- 10) B

$$\begin{array}{l} 2X + (X - 1) = 2 \\ 3X - 1 = 2 \\ 3X = 3, X = 1 \end{array} \quad \begin{array}{l} Y - (1) = -1 \\ Y = 0 \end{array}$$
- 11) B

$$\begin{array}{l} Y = 6(2Y + 3) + 4 \\ Y = 12Y + 18 + 4 \\ -11Y = 22, Y = -2 \end{array} \quad \begin{array}{l} X = 2(-2) + 3 \\ X = -4 + 3 \\ X = -1 \end{array}$$
- 12) E

$$470 \div 55 = 8.5 \text{ hours}$$

$$6:00 \text{ am} + 8.5 \text{ hrs.} = 2:30 \text{ pm}$$
- 13) D

$$470 \div 23.5 = 20 \text{ mpg}$$
- 14) D
the numbers are squares of consecutive counting numbers
- 15) C
check each value of X in the given equation

Test 15

- 1) D
- 2) C
- 3) B
- 4) E
- 5) C

$$\begin{array}{r} X - 3Y = 6 \\ X + 3Y = 12 \\ \hline 2X = 18 \\ X = 9 \end{array}$$
- 6) B

$$(9) - 3Y = 6, Y = 1$$
- 7) D
- 8) E

$$\begin{array}{r} 2X + 4Y = 13 \\ -12X - 4Y = -8 \\ \hline -10X = 5 \\ X = -1/2 \end{array}$$
- 9) A

$$2(-1/2) + 4Y = 13, Y = 3 \frac{1}{2}$$
- 10) A
- 11) C

$$\begin{array}{r} X + 6Y = 12 \\ 3X - 6Y = 12 \\ \hline 4X = 24 \\ X = 6 \end{array} \quad \begin{array}{l} (6) + 6Y = 12 \\ 6Y = 6, Y = 1 \end{array}$$
- 12) D

$$\begin{array}{r} -3X - Y = 9 \\ 2X + Y = 3 \\ \hline -X = 12 \\ X = -12 \end{array} \quad \begin{array}{l} 2(-12) + Y = 3 \\ -24 + Y = 3, Y = 27 \end{array}$$
- 13) E
- 14) B
the numbers are squares of consecutive counting numbers
- 15) D
check each value of X in the equations

Test 16

- 1) A
- 2) B

$$\begin{array}{l} (N + D = 7) \times (-10) \Rightarrow -10N - 10D = -70 \\ (.05N + .10D = .50) \times 100 \Rightarrow 5N + 10D = 50 \\ \hline -5N = -20 \\ N = 4 \end{array}$$
- 3) A

$$(4) + D = 7, D = 3$$
- 4) D

$$\begin{array}{l} (N + D = 13) \times (-5) \Rightarrow -5N - 5D = -65 \\ (.05N + .10D = 1.10) \times 100 \Rightarrow 5N + 10D = 110 \\ \hline 5D = 45 \\ D = 9 \end{array}$$
- 5) A

$$N + (9) = 13, N = 4$$
- 6) D

$$\begin{array}{l} (N + Q = 13) \times (-5) \Rightarrow -5N - 5Q = -65 \\ (.05N + .25Q = 1.85) \times 100 \Rightarrow 5N + 25Q = 185 \\ \hline 20Q = 120 \\ Q = 6 \end{array}$$
- 7) E

$$N + 6 = 13, N = 7$$
- 8) A
- 9) B

$$\begin{array}{l} (D + Q = 10) \times (-25) \Rightarrow -25D - 25Q = -250 \\ (.10D + .25Q = 2.05) \times 100 \Rightarrow 10D + 25Q = 205 \\ \hline -15D = -45 \\ D = 3 \end{array}$$
- 10) C

$$(3) + Q = 10, Q = 7$$
- 11) E

$$\begin{array}{l} (A + B = 5) \times (-30) \Rightarrow -30A - 30B = -150 \\ (.30A + .75B = 2.40) \times 100 \Rightarrow 30A + 75B = 240 \\ \hline 45B = 90 \\ B = 2 \end{array}$$
- 12) B

$$A + (2) = 5, A = 3$$
- 13) B
- 14) A

$$\begin{array}{l} Y = 15X + 50 \\ Y = 15(10) + 50, Y = 200 \end{array}$$
- 15) E

$$\begin{array}{l} Y = 20X + 50 \\ Y = 20(10) + 50, Y = 250 \end{array}$$

Test 17

- 1) B
- 2) C
- 3) C
- 4) D
- 5) C

$$6N - 2N - 2 = N + 2 + 5$$

$$N = 3$$
- 6) A

$$\begin{array}{l} 6N + 5(N + 2) + 3(N + 2) = 10(N + 1) + 10 \\ 6N + 5N + 10 + 3N + 6 = 10N + 10 + 10 \\ 14N + 16 = 10N + 20, N = 1 \end{array}$$
- 7) B

$$(1) + 2 = 3$$
- 8) C

$$\begin{array}{l} 3N + (N + 2) + 2 = 3(N + 4) \\ 3N + N + 2 + 2 = 3N + 12 \\ 4N + 4 = 3N + 12, N = 8 \end{array}$$
- 9) E

$$(8) + 2 = 10$$
- 10) D

$$\begin{array}{l} 10N + 10(N + 2) = 10(N + 4) + 10 \\ 10N + 10N + 20 = 10N + 40 + 10 \\ 20N + 20 = 10N + 50, N = 3 \\ \text{second integer} = (3) + 2 = 5 \end{array}$$
- 11) A
- 12) A

$$\begin{array}{l} 3N - 2(N + 2) + 13 = -3[N + (N + 4)] \\ 3N - 2N - 4 + 13 = -3N - 3N - 12 \\ N + 9 = -6N - 12, N = -3 \end{array}$$
- 13) C

$$(-3) + 2 + 2 = 1$$
- 14) C

$$\begin{array}{l} 4N + 2(N + 1) = 4(N + 2) \\ 4N + 2N + 2 = 4N + 8 \\ 6N + 2 = 4N + 8, N = 3 \end{array}$$
- 15) C

$$(3) + 2 = 5$$