MULTIPLE choice. Choose the one alternative that best completes the statement or answers the question.

Solve the system by elimination. If the system is inconsistent or has dependent equations, say so.

1) $-x - 8y = -7$
   \begin{align*}
   2x + 8y & = 6 \\
   \text{A)} \ & \{(1, -1)\} \\
   \text{B)} \ & \{(0, 0)\} \\
   \text{C)} \ & \{(1, 1)\} \\
   \text{D)} \ & \emptyset; \text{ inconsistent system}
   \end{align*}

2) $x + 4y = 13$
   \begin{align*}
   2x + 3y & = 6 \\
   \text{A)} \ & \{(3, 5)\} \\
   \text{B)} \ & \{(-3, 4)\} \\
   \text{C)} \ & \{(-4, 5)\} \\
   \text{D)} \ & \emptyset; \text{ inconsistent system}
   \end{align*}

3) $5x - 2y = 3$
   \begin{align*}
   -20x + 8y & = -12 \\
   \text{A)} \ & \{(-3, 3)\} \\
   \text{B)} \ & \{(1, 1)\} \\
   \text{C)} \ & \{(x, y) \mid 5x - 2y = 3\}; \text{ dependent equations} \\
   \text{D)} \ & \emptyset; \text{ inconsistent system}
   \end{align*}

4) $8x + 9y = 8$
   \begin{align*}
   -2x + 2y & = -2 \\
   \text{A)} \ & \{(1, 0)\} \\
   \text{B)} \ & \{(1, 1)\} \\
   \text{C)} \ & \{(0, 1)\} \\
   \text{D)} \ & \emptyset; \text{ inconsistent system}
   \end{align*}

Solve the system by substitution. If the system is inconsistent or has dependent equations, say so.

5) $y = \frac{-5}{24}x$
   \begin{align*}
   -5x - 6y & = 3 \\
   \text{A)} \ & \left\{ -\frac{4}{5}, \frac{1}{6} \right\} \\
   \text{B)} \ & \emptyset; \text{ inconsistent system} \\
   \text{C)} \ & \left\{ \frac{4}{5}, \frac{1}{6} \right\} \\
   \text{D)} \ & \left\{ -\frac{4}{5}, -\frac{1}{6} \right\}
   \end{align*}

6) $x + y = 9$
   \begin{align*}
   x + y & = 5 \\
   \text{A)} \ & \{(9, 5)\} \\
   \text{B)} \ & \{(0, 14)\} \\
   \text{C)} \ & \emptyset; \text{ inconsistent system} \\
   \text{D)} \ & \{(x, y) \mid x + y = 5\}; \text{ dependent equations}
   \end{align*}

7) $x + y = 2$
   \begin{align*}
   2x + 2y & = 4 \\
   \text{A)} \ & \{(0, 0)\} \\
   \text{B)} \ & \{(5, -3)\} \\
   \text{C)} \ & \{(x, y) \mid x + y = 2\}; \text{ dependent equations} \\
   \text{D)} \ & \emptyset; \text{ inconsistent system}
   \end{align*}

8) $5x - 2y = -1$
   \begin{align*}
   x + 4y & = 35 \\
   \text{A)} \ & \{(3, 9)\} \\
   \text{B)} \ & \{(2, 9)\} \\
   \text{C)} \ & \{(3, 8)\} \\
   \text{D)} \ & \{(2, 8)\}
   \end{align*}
Solve the system by graphing.

9) \[5x + y = 16\]
   \[x + 6y = 38\]

A) \{(4, -4)\}  B) \{(2, 6)\}  C) \{(2, 1)\}  D) \{(-2, 6)\}

10) \[y = 9 - 2x\]
    \[x + 5y = 0\]

A) \{(5, -1)\}  B) \{(-5, -1)\}  C) \{(4, 1)\}  D) \{(5, 4)\}

Graph the compound inequality.

11) \[x + y \geq 2\] and \[y \leq 2\]
12) $2x - y > 4$ and $x \leq 4$
13) $3x - 2y \leq 6$ and $x - 1 > 0$
Solve the problem.

14) During the 1998-1999 Little League season, the Tigers played 40 games. They won 18 more games than they lost. How many games did they win that season?
   A) 31 games    B) 26 games    C) 29 games    D) 11 games

15) The perimeter of a triangle is 75 cm. The triangle is isosceles now, but if its base were lengthened by 2 cm and each leg were shortened by 7 cm, it would be equilateral. Find the length of the base of the original triangle.
   A) 21 cm    B) 18 cm    C) 19 cm    D) 28 cm

16) A sum of money amounting to $3.70 consists of dimes and quarters. If there are 19 coins in all, how many are quarters?
   A) 12 quarters    B) 9 quarters    C) 7 quarters    D) 17 quarters

17) A contractor mixes concrete from bags of pre-mix for small jobs. How many bags with 7% cement should he mix with 4 bags of 17% cement to produce a mix containing 11% cement?
   A) 8 bags    B) 10 bags    C) 6 bags    D) 15 bags

18) How many liters (L) of a 10% alcohol solution must be mixed with 50 L of a 90% solution to get a 50% solution?
   A) 5 L    B) 10 L    C) 100 L    D) 50 L
19) How many liters (L) of a 10% silver iodide solution must be mixed with 9 L of a 4% silver iodide solution to get a 6% solution?
   A) 4.5 L  B) 9.0 L  C) 5.5 L  D) 3.5 L

20) The speed of a stream is 6 mph. If a boat travels 88 miles downstream in the same time that it takes to travel 44 miles upstream, what is the speed of the boat in still water?
   A) 12 mph  B) 18 mph  C) 20 mph  D) 21 mph