

Algebra II Homework #7

- 1) Brittany leaves a town at 8 a.m. travelling south at 56 mph. Holly leaves the same town at 11 a.m. traveling in the same direction at a speed of 97 mph. What time of day will it be when Holly is 201 miles ahead of Brittany?
- 2) Solve: $\frac{x+4}{6} - \frac{5x-3}{8} = 3x + \frac{2x+5}{12}$
- 3) Solve: $-|-2x+3| + 6 = 1$
- 4) Find the equation of the line that is perpendicular to the line $2x + 5y = -10$ and goes through the point $(-4, 3)$.
- 5) Simplify: $\frac{3}{8} - \frac{18}{34} \left(\frac{1}{12} - \frac{5}{9} \right) + \frac{3^2}{6}$
- 6) Solve the following system by graphing:
 $3x + 2y = 10$ and $-2x + 4y = -12$
- 7) Solve the following system by substitution:
 $5x - y = 3$ and $-6x + 5y = 8$
- 8) Solve the following system by elimination:
 $6x - 4y = -5$ and $3x + 6y = -2$
- 9) Solve the following system:
 $3x - 5y + z = -7$ and $-4x + 3y - 2z = -2$ and $2x - 4y + 3z = 8$
- 10) Solve the following system by graphing:
 $x - 3y = -3$ and $-4x + 3y = -6$
- 11) Solve the following system by substitution:
 $5x - 7y = 8$ and $-2x + 6y = -4$
- 12) Solve the following system by elimination:
 $8x + 6y = -8$ and $-12x + 8y = -3$

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13) Solve the following system:

$$5x + 3y - 2z = 12 \text{ and } -3x - 2y - z = 1 \text{ and } 4x - 4y - 3z = -4$$

14) Solve the following system by graphing:

$$4x + y = -4 \text{ and } -8x - 2y = -6$$

15) Solve the following system by substitution:

$$-x + 6y = 3 \text{ and } -4x + 3y = -9$$

16) Solve the following system by elimination:

$$12x + 14y = -3 \text{ and } 18x - 21y = 4$$

17) Solve the following system:

$$x + 3y - 2z = -7 \text{ and } -2x - 4y + 3z = 7 \text{ and } 3x + 5y - z = 2$$

18) Solve the following system by graphing:

$$-x + 3y = 3 \text{ and } 2x + 3y = 12$$

19) Solve the following system by substitution:

$$3x - 6y = 6 \text{ and } -4x + 8y = -8$$

20) Solve the following system:

$$4x - 2y - 3z = -2 \text{ and } -3x - 4y + 4z = -11 \text{ and } 2x + 5y - 2z = 7$$

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