

## Algebra 2/Trig Review: Sec 3.2-3.3 Algebraic Systems & Inequalities

Solve each system by the indicated method. Check by hand & calc.

①  $4x - y = -5$  (substitution)  
 $3x + 2y = -1$

②  $5x - 2y = 8$  (elimination)  
 $x + 6y = -24$

③  $2x + 5y = -11$  (substitution)  
 $4x + 2y = -14$

④  $3x + 4y = 2$  (elimination)  
 $6x + 12y = 5$

Solve each system using any algebraic method

⑤  $6x - 2y = 4$   
 $3x - y = 1$

⑥  $4x - 6y = -5$   
 $8x + 3y = 0$

⑦  $2x + y = -1$   
 $3x + 3y = 9$

⑧  $2x + 6y = 8$   
 $3x + 9y = 12$

⑨  $\frac{1}{2}x + \frac{1}{3}y = 3$   
 $2x - y = 5$

⑩  $x + 3y + 4 = -1$   
 $3x - 2y + 1 = 19$

- ⑪ To attend a Wiggles Concert, it will cost \$5 per child & \$9 per adult. If 12 people attend the concert at a cost of \$68, how many children & adults attend?

Solve each system of inequalities by graphing.

⑫  $y \leq -5x + 3$   
 $2x - 3y \geq 6$

⑬  $y \geq -\frac{1}{2}x + 4$   
 $y > x + 1$

⑭  $2x + 4y > 8$   
 $x - 3y < 3$

⑮  $y \leq -\frac{1}{3}x + 1$   
 $y > -\frac{1}{3}x + 4$

⑯  $y < 3$   
 $x \geq -2$

# Answers:

①  $(-1, 1)$

②  $(0, -4)$

③  $(-3, -1)$

④  $(\frac{1}{3}, \frac{1}{4})$

⑤  $\emptyset$

⑥  $(-\frac{1}{4}, \frac{2}{3})$

⑦  $(-4, 7)$

⑧  $\{(x, y) | 2x + 6y = 8\}$

⑨  $(4, 3)$

⑩  $(4, -3)$

⑪ 10 children, 2 adults

