

Algebra 2
Practice SST

Name Key
Date _____ Per _____

All answers must be exact and in simplest form unless stated otherwise. All problems should be completed WITHOUT a calculator.

1. Solve: $|5x-4|+4=9$
 $5x-4=5$ $-5x+4=5$
 $5x=9$ $-5x=1$
 $x=9/5$ $x=-1/5$

2. Graph the solution: $|4x+3| \geq 9$

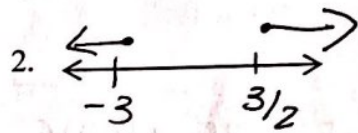
$4x+3 \geq 9$
 $4x \geq 6$
 $x \geq 3/2$

3. Solve the system:
 $3x-3y=6$
 $x+4y=12$
 $-3(x+4y=12)$
 $-3x-12y=-36$
 $-15y=-30$
 $y=2$
 $x+8=12$
 $x=4$

4. Simplify: $(15x^2-5x+2)-4(3x^2+6x-7)$
 $15x^2-5x+2-12x^2-24x+28$

5. Factor: $x^2+4x-12$

1. $x = 9/5, -1/5$



3. $(4, 2)$

4. $3x^2 - 29x + 30$

5. $(x+6)(x-2)$

6. Factor: $6x^2 - 13x - 5$

$$\begin{array}{r} -30 \\ -15 \quad 2 \\ -13 \end{array}$$

$$x^2 - 13x - 30 = (x - 5/2)(x + 13)$$

$$(x - \frac{15}{6})(x + \frac{2}{6})$$

7. Solve: $x^2 - 5x - 14 = 0$

$$(x - 7)(x + 2) = 0$$

8. Solve using the quadratic formula: $2x^2 - 5x - 2 = 0$
If no real solution, state "No real solution"

$$\frac{5 \pm \sqrt{25 - 4(2)(-2)}}{2(2)}$$

$$\frac{5 \pm \sqrt{25 + 16}}{4}$$

$$\frac{25}{16}$$

$$\frac{5 \pm \sqrt{41}}{4}$$

$$6. \underline{(2x - 5)(3x + 1)}$$

$$7. \underline{x = 7, x = -2}$$

$$8. \underline{x = \frac{5 \pm \sqrt{41}}{4}}$$