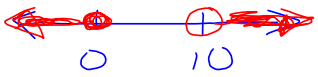
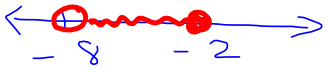
Adv Alg 2 Summer Worksheet #1 Name _____

1. Write the equation of the line passing through the points (1 -1) and (4,8) in slope-intercept form $y = 3x - 4$	2. Write the equations of the line passing through the points (3,-5) and (-2, 7) in point-slope form. $y+5 = -\frac{12}{5}(x-3)$ or $y-7 = -\frac{12}{5}(x+2)$	3. Solve and graph the solution on a number line. Then state the solution. $7x - 5 > 65$ *or* $-3x - 2 \geq -2$  0 10 $x \leq 0$ or $x > 10$
4. Solve and graph the solution on a number line. Then state the solution. $7k + 6 > -50$ *and* $7k \leq -14$  $-8 < x \leq -2$	5. Solve and graph the solutions on a number line. $\|2x + 1\| > -5$ All real numbers	6. Solve using the quadratic formula. $x^2 + 1 = 4x$ $x = 2 \pm \sqrt{3}$ ≈ 3.7 or 0.3
7. Solve using the zero product property. $9x^2 = 15x - 4$ $x = 1/3$ or $x = 4/3$	8. Solve and graph the solutions on a number line. $3\|2x + 4\| = 6$  $x = -1$ or $x = -3$	9. Factor completely : $5x^2 - 32x - 21$ $(5x+3)(x-7)$
10. Factor completely : $2x^2 - 6x - 20$ $2(x-5)(x+2)$	11. Solve the system of equations. Write the solution as an ordered pair. $2x - 3y = 16$ $5x + 6y = 13$ $(5, -2)$	12. Solve the system of inequalities by graphing. $y > -x + 1$ $x - y \geq -2$