

Show all work on a separate sheet of graph paper.

1. Solve. $3x - \frac{2}{x} = 8$	2. Solve. $\frac{10m-3}{4m-7} = \frac{5m-8}{2m+6}$	
3. Solve using the quadratic formula. (Leave answers in simplified radicals) $2x^2 = 1 + 6x$	4. . Solve. $-8(w+5) = -4[w - (4-w)]$	5 Solve, graph, write the answer in set notation. $ \frac{2}{3}x + 1 \geq 3$
6. a. Find the distance between the points T(-2,0) and S(4,-4). (Leave answers in simplified radicals) b. Find the midpoint of the line segment joining the points T(-2,0) and S(4,-4).	7. Find the equation of the line perpendicular to $2x - 3y = 8$ and passing through (-6,-7).	
8. A gardener has 142 feet of fencing to be used to enclose a rectangular garden that has a border 2 feet wide surrounding it. If the length of the garden is to be twice its width, what will be the dimension of the garden?		
9. Going into the final exam, which will count as two tests, George has test scores of 77,75,83,82 and 80. What score does George need to earn a B, which requires an average score of 80?		
10. Write the equation for a circle with center (-2, 3) and radius of 4.		
11. Show algebraically whether the given function is even, odd, or neither.		
a) $z(x) = \frac{x^5}{x^2 - 3x}$ b) $z(x) = \frac{x^2}{x^5 - 3x}$		
12. Solve the quadratic inequality. $3x^2 - 2x - 1 \geq 0$		