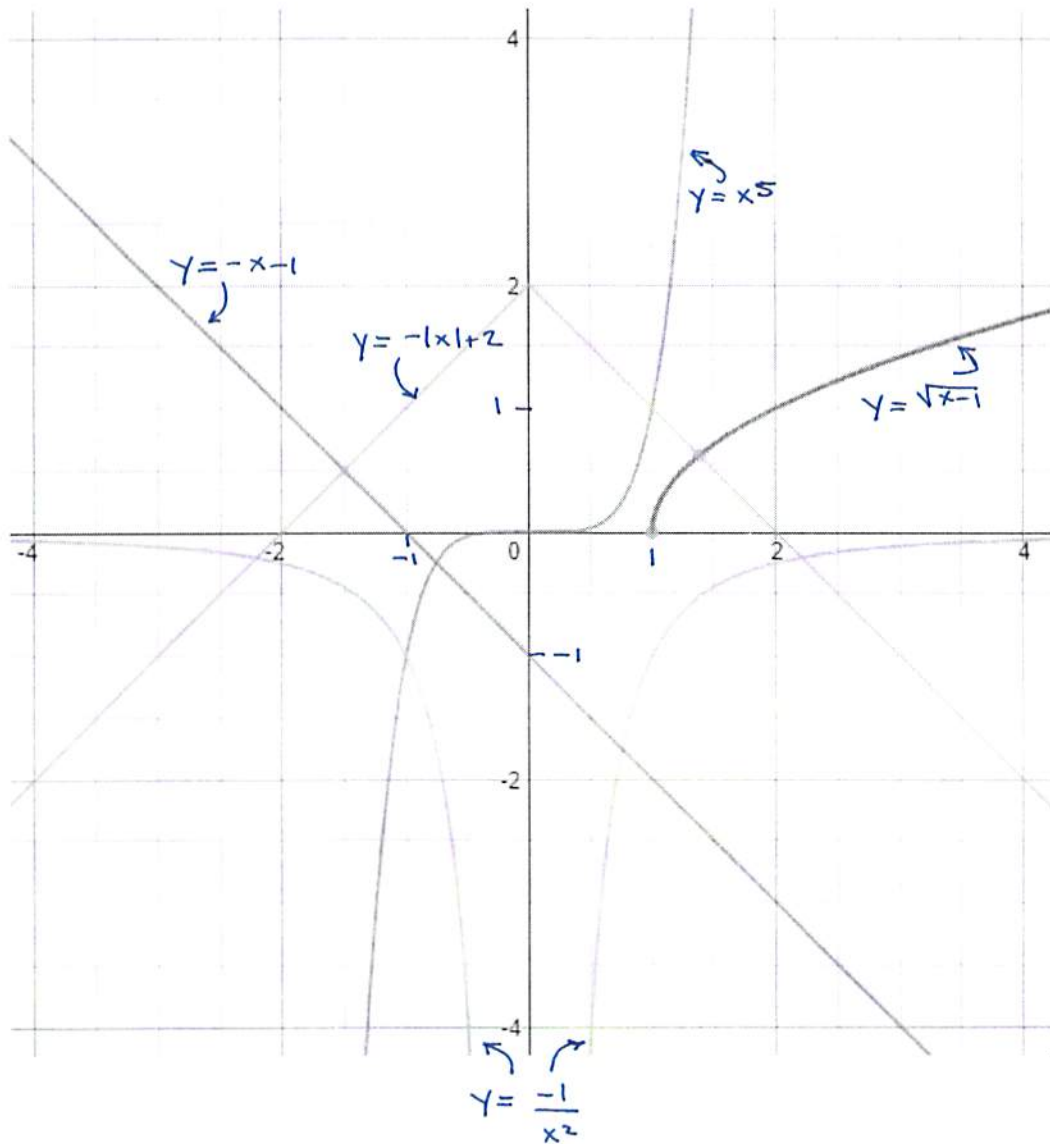


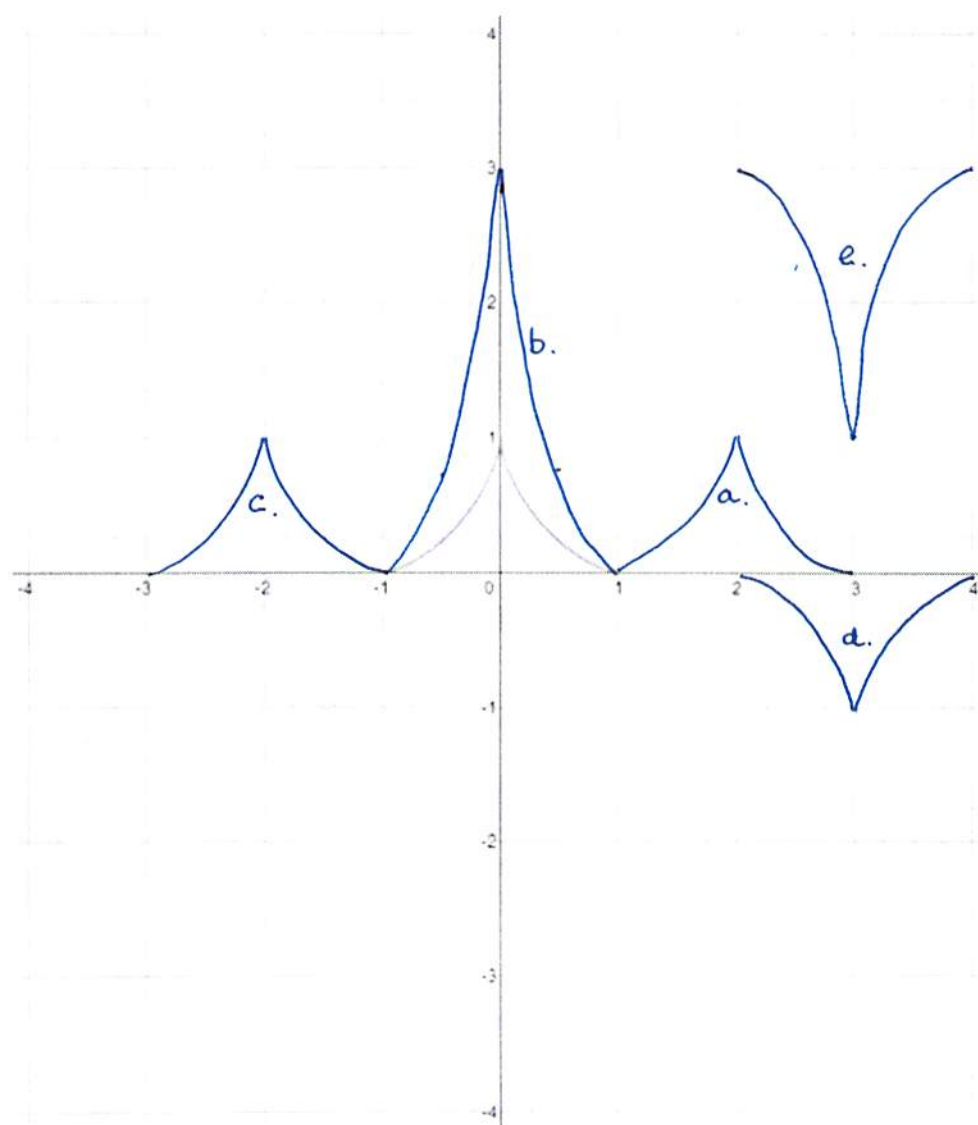
Homework set 1: Function sketching

1. Here are the graphs of $y = \sqrt{x-1}$, $y = x^5$, $y = -\frac{1}{x^2}$, $y = -|x| + 2$, $y = -x - 1$. Label each one.

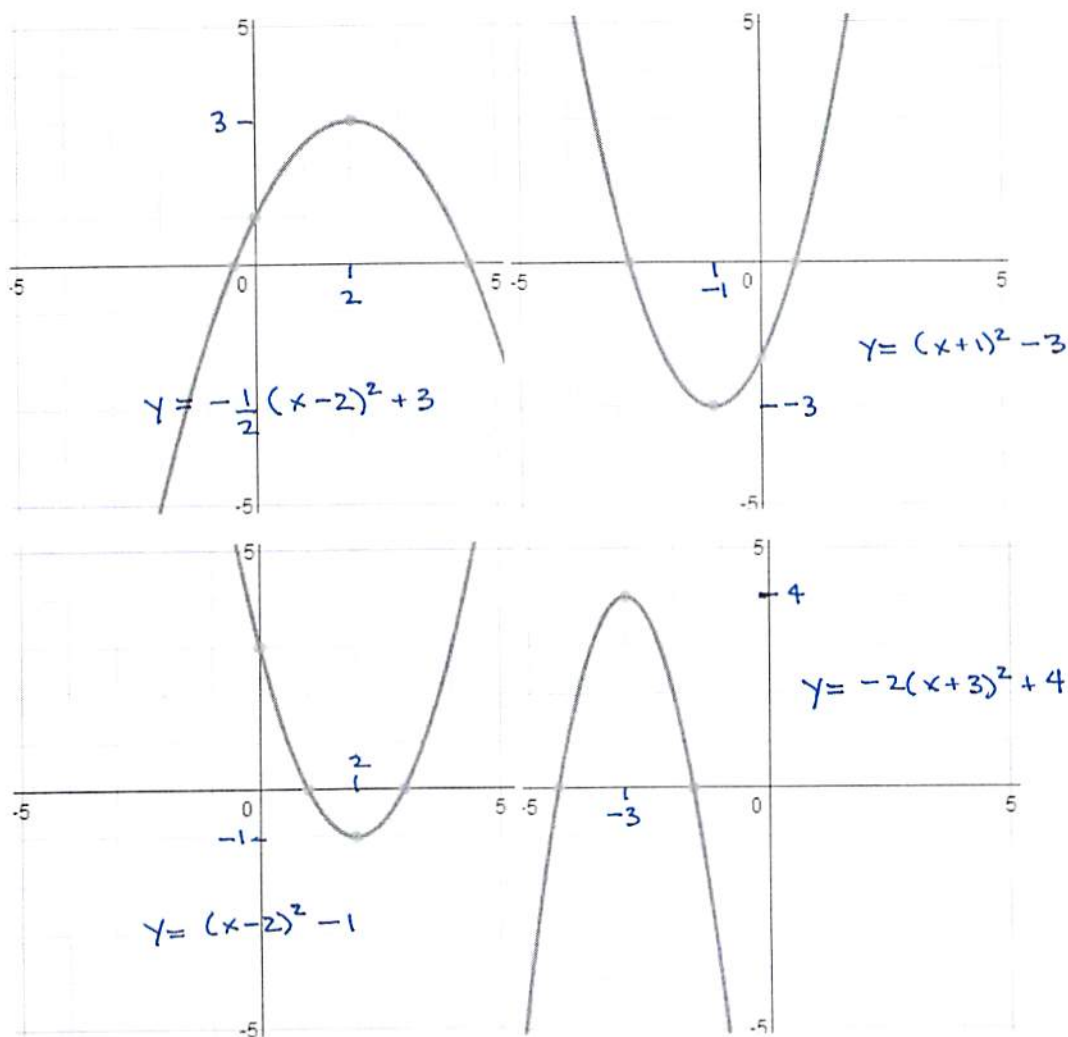


2. The graph of a function $f(x)$ is shown on the axes below. Sketch the following graphs on the same axes:

- a. $f(x-2)$
- b. $3f(x)$
- c. $f(x+2)$
- d. $-f(x-3)$
- e. $-2f(x-3)+3$



3. What are the equations of the functions below? (Hint: They are all modifications of x^2 .)



Sketch the graph of the equation by translating, reflecting, compressing and stretching the graph of a known base function:

4. $y = (x-5)^2$

5. $y = 2(x+1)^2$

6. $y = \frac{1}{2}x^2 - 1$

7. $y = (x-3)^2 + 2$

8. $y = -2(x+1)^2 - 3$

9. $y = -(x+2)^3$

10. $y = \sqrt{x+4} + 1$

11. $y = 3 - \sqrt{x+1}$

12. $y = |x| - 3$

13. $y = |x+2|$

14. $y = -|x-2| + 3$

15. $y = 5 - |x+1|$

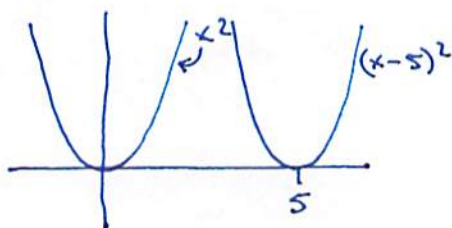
16. $y = \frac{1}{x-3}$

17. $y = 2 - \frac{1}{x+1}$

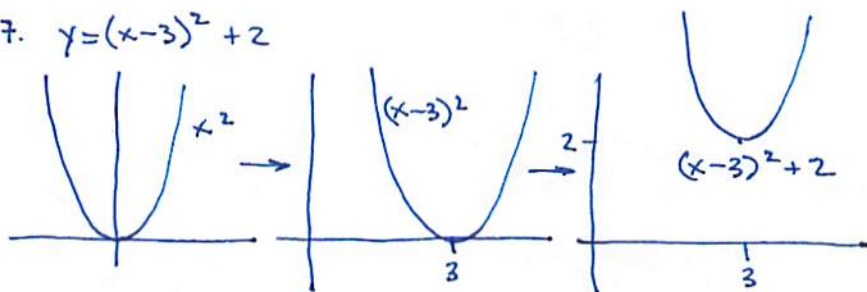
18. $y = \frac{-1}{|1-(x-2)^2|}$

Math 100
Homework Problem Set 1

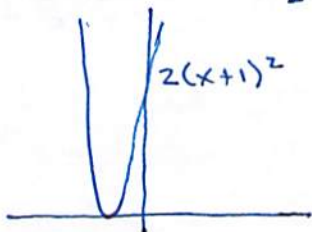
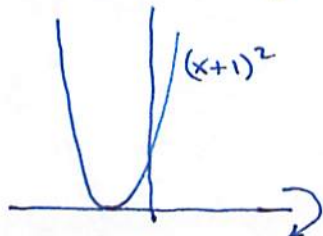
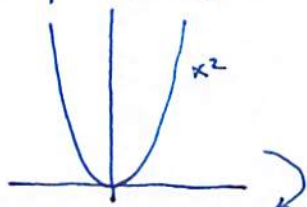
4. $y = (x-5)^2$



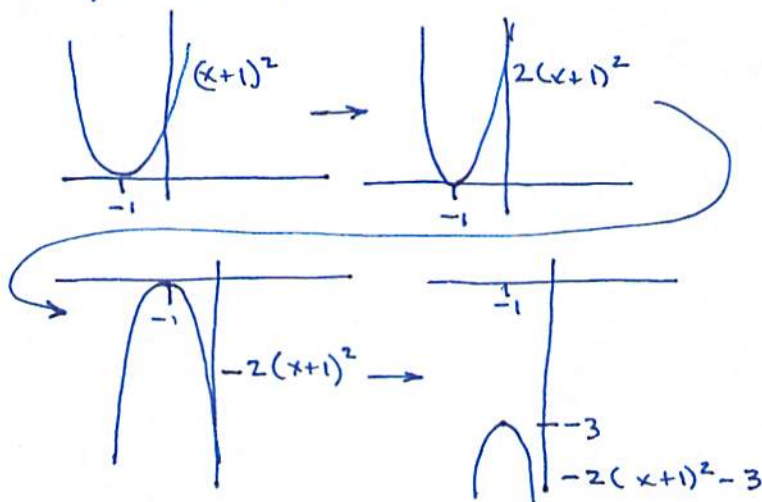
7. $y = (x-3)^2 + 2$



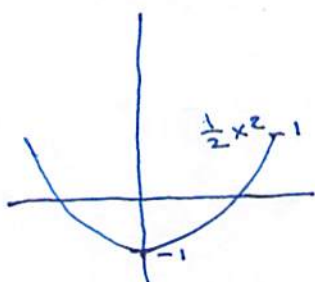
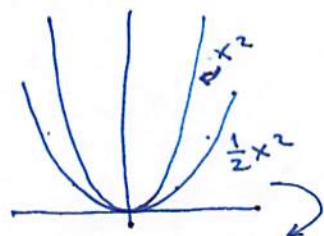
5. $y = 2(x+1)^2$



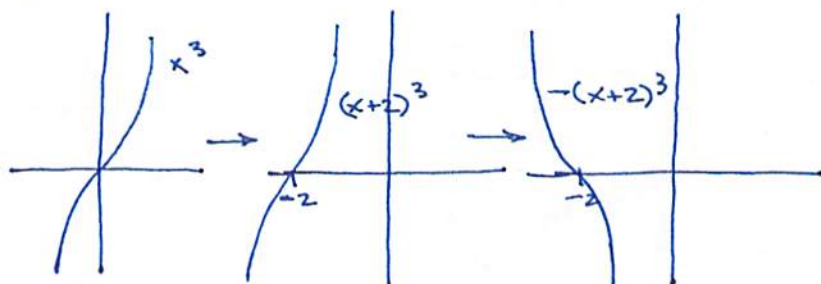
8. $y = -2(x+1)^2 - 3$



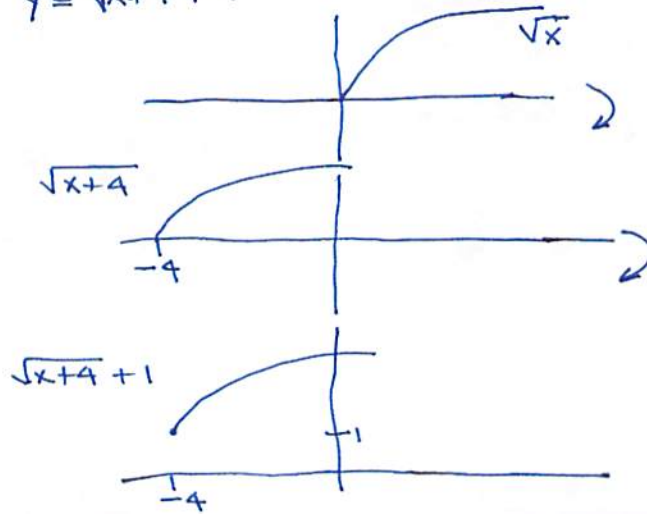
6. $y = \frac{1}{2}x^2 - 1$



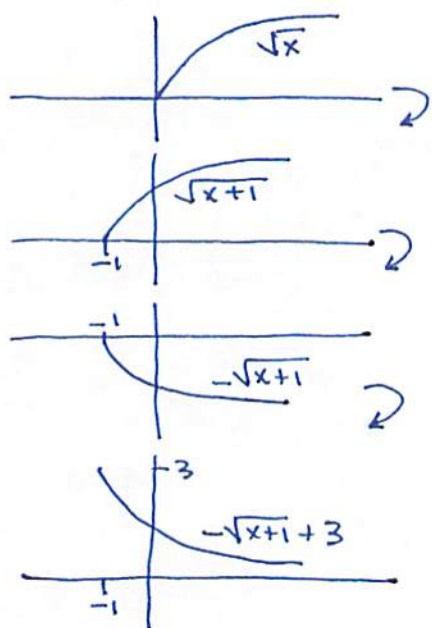
9. $y = -(x+2)^3$



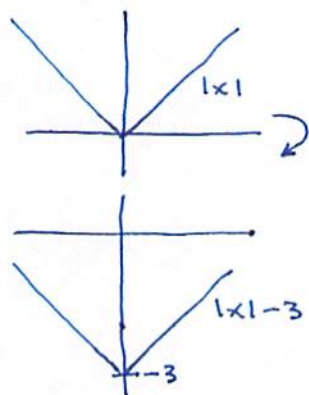
10. $y = \sqrt{x+4} + 1$



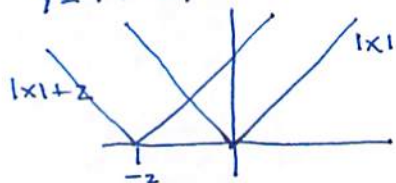
11. $y = 3 - \sqrt{x+1} = -\sqrt{x+1} + 3$



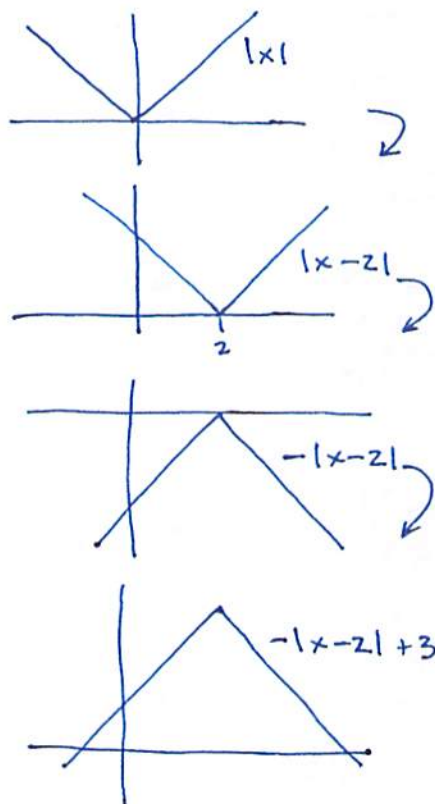
12. $y = |x| - 3$



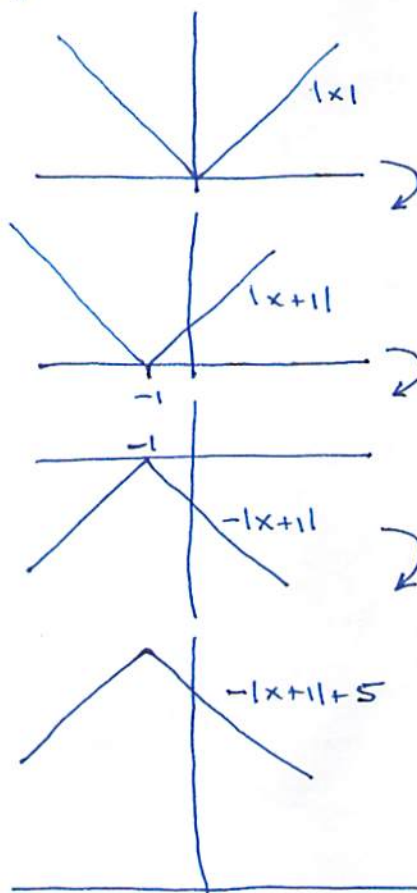
13. $y = |x+2|$



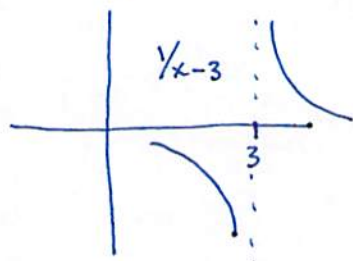
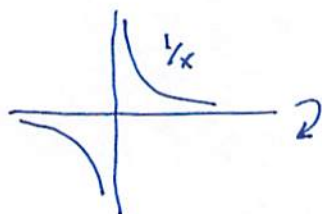
14. $y = -|x-2| + 3$



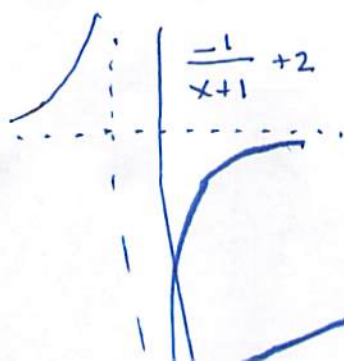
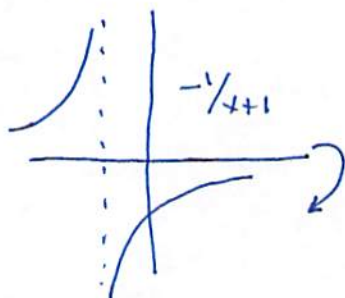
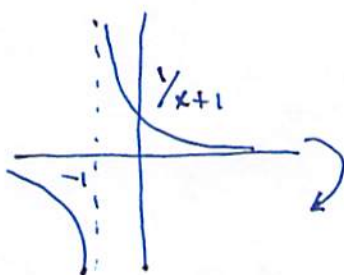
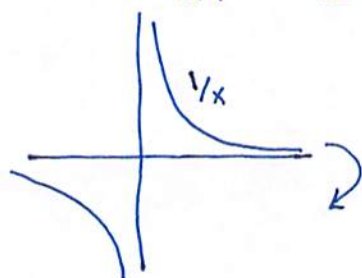
15. $y = 5 - |x+1| = -|x+1| + 5$



16. $y = \frac{1}{x-3}$



17. $y = 2 - \frac{1}{x+1} = -\frac{1}{x+1} + 2$



18. $y = \frac{-1}{|1-(x-2)^2|} = \frac{-1}{|-(x-2)^2+1|}$

