LIBRARY OF FUNCTIONS

DAY 4

1. **Linear Function** $f(x) = mx+b$

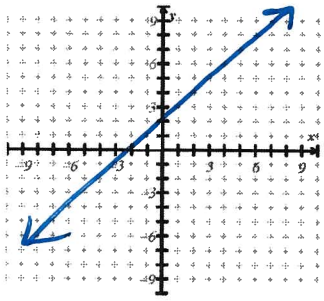
Domain: $(-\infty, \infty)$

x-intercept: yes y-intercept: $(0, b)$

even / odd / (neither)

incr'g on $m>0$ decr'g on $m<0$

local min @ N/A local max @ N/A



2. **Constant Function** $f(x) = b$

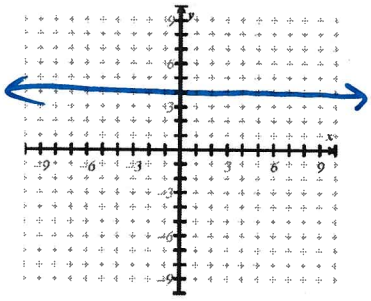
Domain: $(-\infty, \infty)$

x-intercept: N/A y-intercept: $(0, b)$

(even) / odd / neither

incr'g on N/A decr'g on N/A

local min @ N/A local max @ N/A



3. **Identity Function** $f(x) = x$

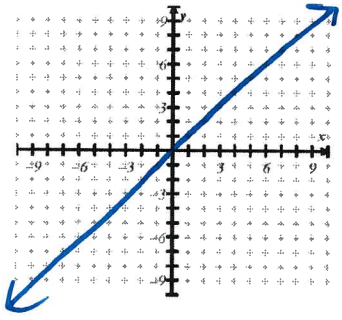
Domain: $(-\infty, \infty)$

x-intercept: $(0,0)$ y-intercept: $(0,0)$

even /(odd)/ neither

incr'g on $(-\infty, \infty)$ decr'g on N/A

local min @ N/A local max @ N/A



4. **Quadratic (Square) Function** $f(x) = x^2$

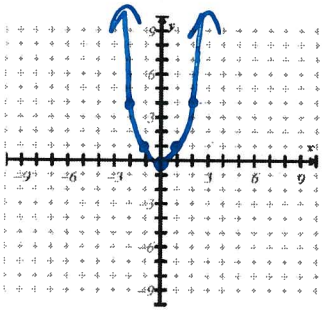
Domain: $(-\infty, \infty)$

x-intercept: $(0,0)$ y-intercept: $(0,0)$

(even) / odd / neither

incr'g on $(0, \infty)$ decr'g on $(-\infty, 0)$

local min @ $(0,0)$ local max @ N/A



5. **Cube Function** $f(x) = x^3$

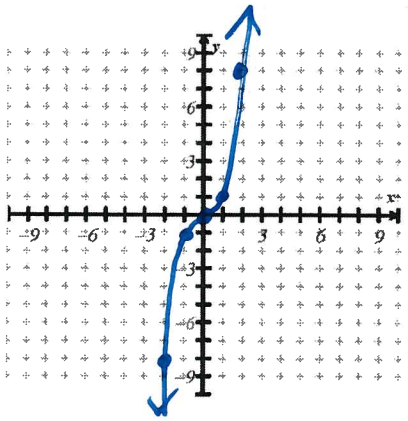
Domain: $(-\infty, \infty)$

x-intercept: $(0,0)$ y-intercept: $(0,0)$

even / (odd) / neither

incr'g on $(-\infty, \infty)$ decr'g on N/A

local min @ N/A local max @ N/A



6. **Square Root Function** $f(x) = \sqrt{x}$

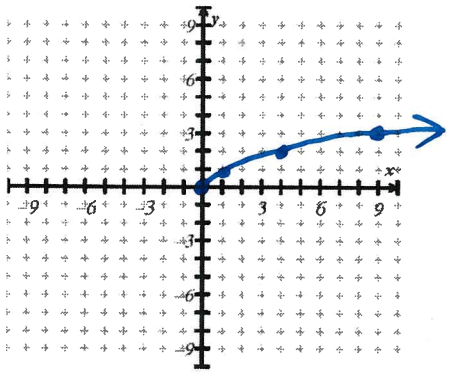
Domain: $[0, \infty)$

x-intercept: $(0,0)$ y-intercept: $(0,0)$

even / odd / (neither)

incr'g on $(0, \infty)$ decr'g on N/A

local min @ N/A local max @ N/A



7. **Cube Root Function** $f(x) = \sqrt[3]{x}$

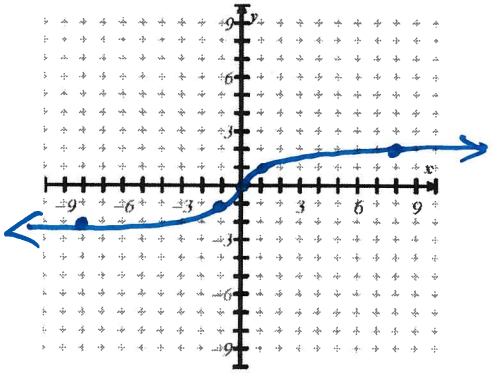
Domain: $(-\infty, \infty)$

x-intercept: $(0,0)$ y-intercept: $(0,0)$

even / (odd) / neither

incr'g on $(-\infty, \infty)$ decr'g on N/A

local min @ N/A local max @ N/A



8. **Reciprocal Function** $f(x) = \frac{1}{x}$

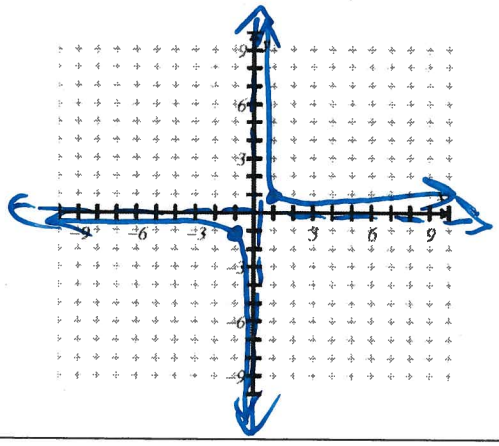
Domain: $(-\infty, 0) \cup (0, \infty)$

x-intercept: N/A y-intercept: N/A

even / (odd) / neither

incr'g on N/A decr'g on $(-\infty, 0) \cup (0, \infty)$

local min @ N/A local max @ N/A



9. **Absolute Value Function** $f(x) = |x|$

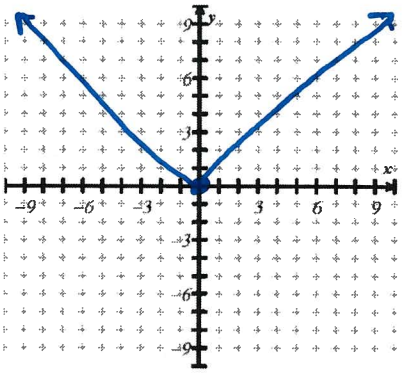
Domain: $(-\infty, \infty)$

x-intercept: $(0,0)$ y-intercept: $(0,0)$

(even) / odd / neither

incr'g on $(0, \infty)$ decr'g on $(-\infty, 0)$

local min @ $(0,0)$ local max @ N/A



10. **Greatest Integer Function** $f(x) = \text{int}(x)$

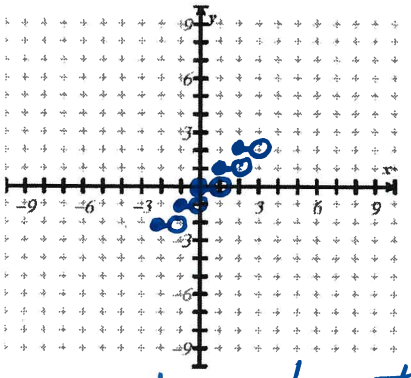
Domain: $(-\infty, \infty)$

x-intercept: $(0,0)$ y-intercept: $(0,0)$

even / odd / (neither)

incr'g on N/A decr'g on N/A

local min @ N/A local max @ N/A



Greatest integer less than or equal to x.