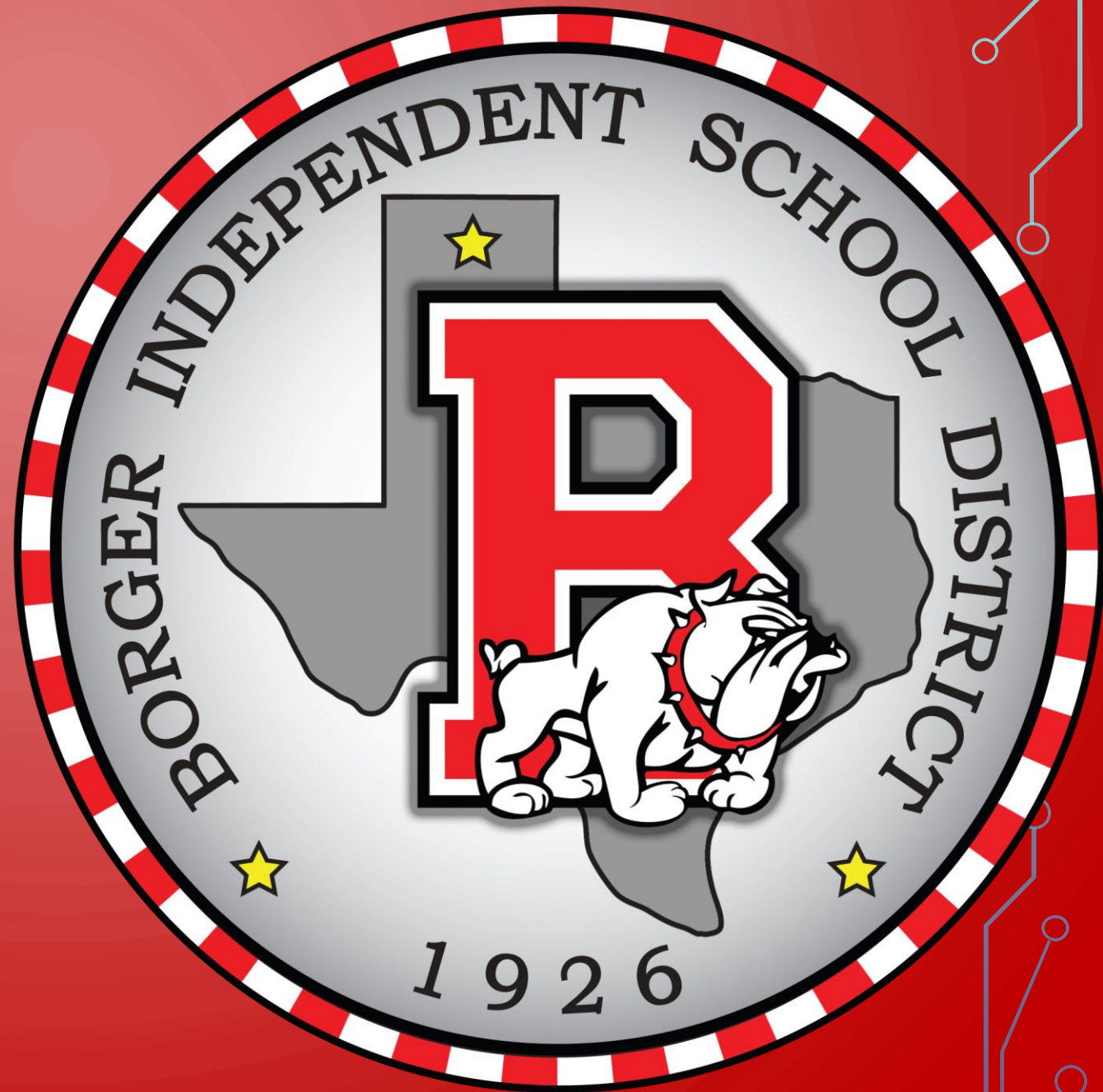

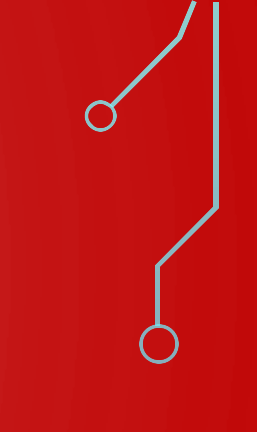
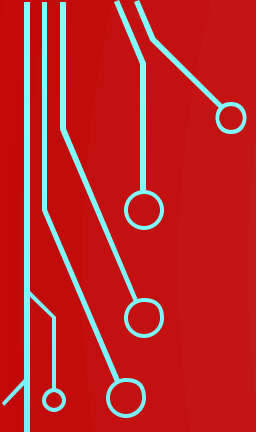


# BOARD NOTES

5 SEPTEMBER 2019





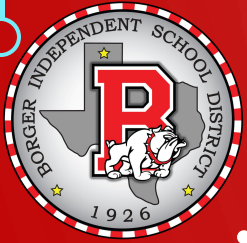
2A.2 (A) graph the functions  $f(x) = x^2$ ,  $f(x) = \sqrt{x} = \sqrt[2]{x}$ ,  $f(x) = 1/x$ ,  $f(x) = \sqrt[3]{x}$ ,  $f(x) = x^3$ ,  $f(x) = |x|$ ,  $f(x) = b^x$ ,  $f(x) = \log_b x$  where  $b$  is 2, 10, and  $e$ , and, when applicable, analyze the key attributes such as domain, range, intercepts, symmetries, asymptotic behavior, and maximum and minimum given an interval;

2A.2 (D) use the composition of two functions, including the necessary restrictions on the domain, to determine if the functions are inverses of each other;

2A.7 (I) write the domain and range of a function in interval notation, inequalities, and set notation.



We will be able to determine the maximum and minimum of a given function if it exists.

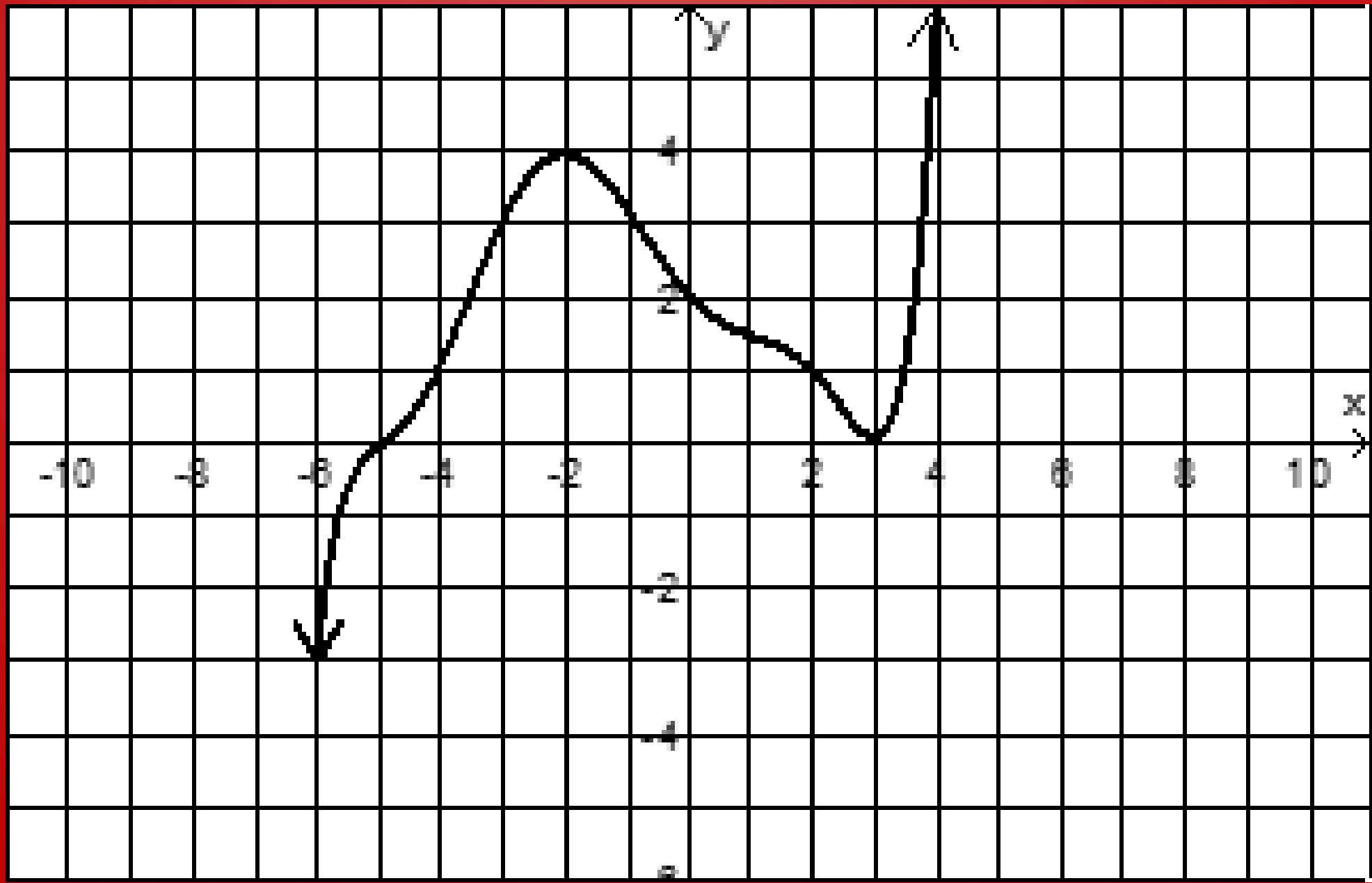


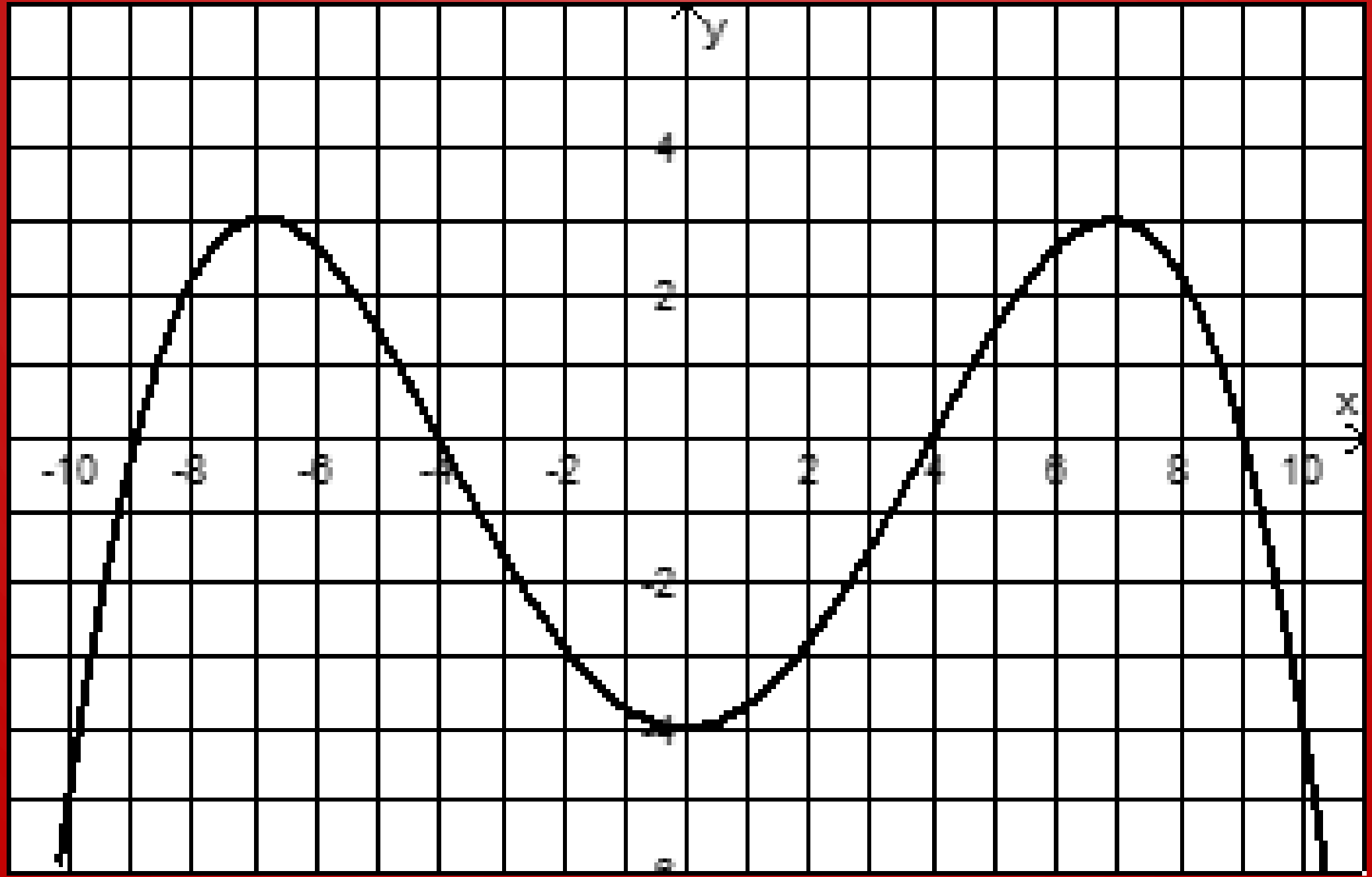
### WHAT WE NEED:

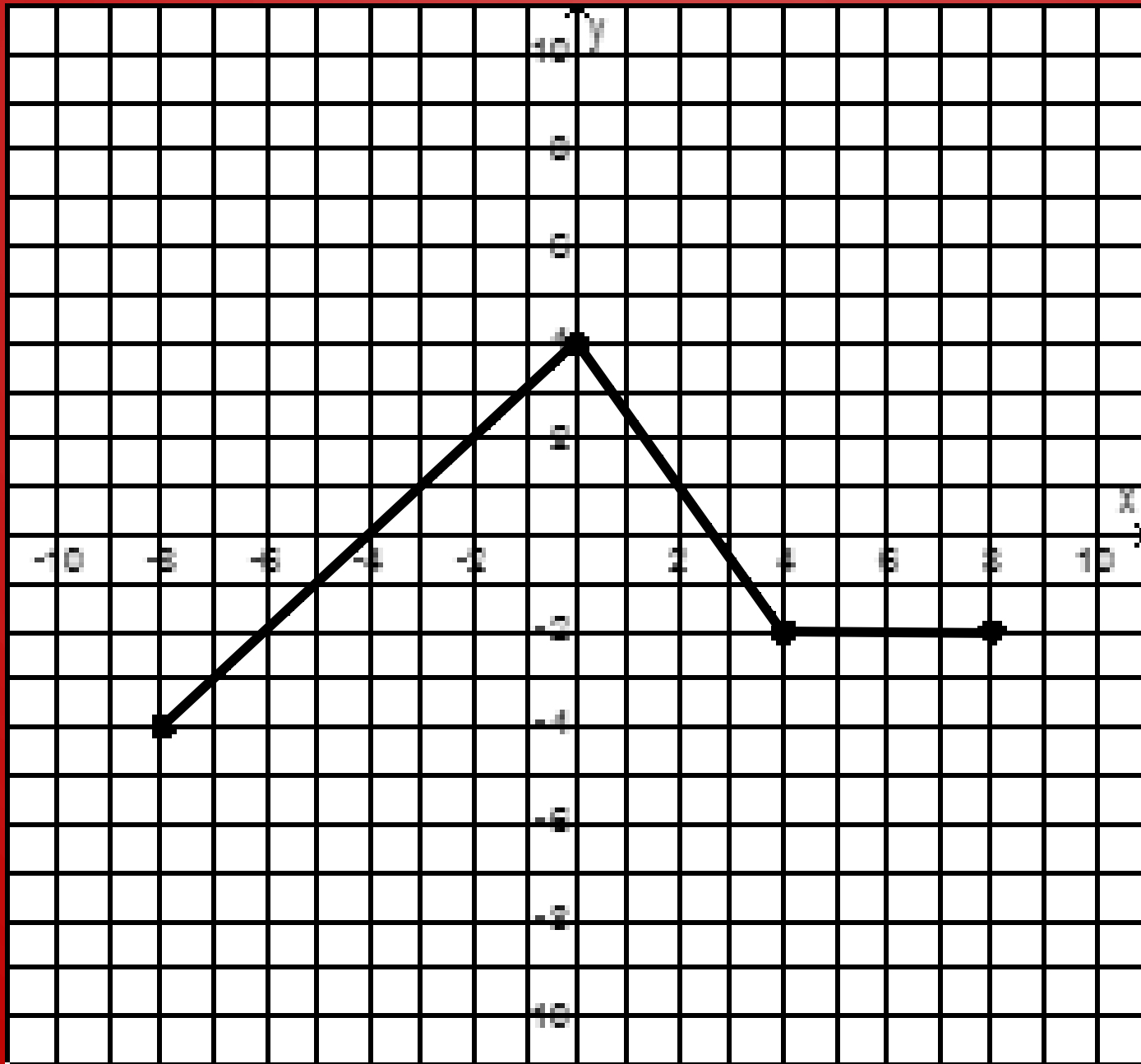
- TI – 84
- Definition of:
  - Maximum
  - Minimum

### I WILL BE ABLE TO COMPLETE MY HOMEWORK GIVING THE

- Domain
- Range
- Intercepts (if any)
- Intervals of: Increasing / Decreasing / Constant
- Reflections
- Even / Odd / Neither
- Transformations









$-\infty \leftarrow \rightarrow \infty \quad x$

$D: \mathbb{R}$

$\infty$   
 $\uparrow$   
 $\downarrow$   
 $-\infty$

$R: \mathbb{R}$

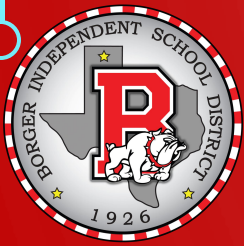
INC  $(-\infty, -2)$   
 $(3, \infty)$

DEC  $(-2, 3)$

able to assess the marketplace to determine...  
and act independently  
**Proficient Technology User** - Students will use technology as a tool to research, develop, and complete goals and objectives. They will demonstrate knowledge of computers, scientific software applications, and the effective use of technology.  
**Contributing Citizen** - Students will contribute energy, time, and talent to improve the welfare of themselves and others. They will display a sense of social responsibility and participate in the democratic process. They will exhibit integrity and honesty, choose ethical courses of action, and take personal responsibility for their actions.

What task would you expect to...  
1. List the objectives on the lesson...  
2. What are the objectives...  
3. How would you feel...  
4. Can you...  
5. How would you feel...  
6. Can you...  
7. How would you feel...  
8. Can you...  
9. How would you feel...  
10. Can you...

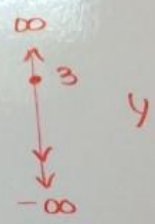




MAX OCCURS  $x = -2$   
 $y = 4$

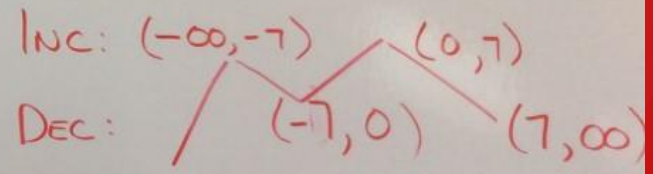
MIN OCCURS  $x = 3$   
 $y = 0$

EVEN (Y AXIS SYM)  
ODD (ORIGIN SYM)

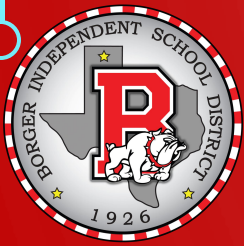


D:  $\mathbb{R}$   
R:  $(-\infty, 3]$

Max:  $x = -7, 7$   
 $y = 3$   
Min:  $x = 0$   
 $y = -4$





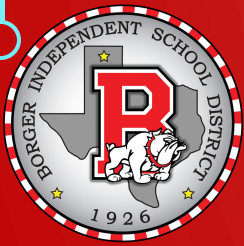


$(5, -1)$  FROM  $f(x)$

$3f(x)$   
 $(5, -3)$

$f(x+4)$   
 $(1, -1)$

$3-f(2x)$   
 $(\frac{x}{2}, 3-y)$   
 $(\frac{5}{2}, 3-(-1))$   
 $(2.5, 4)$



x	y
-8	-4
0	4
4	-2
8	-2

D:  $[-8, 8]$   
R:  $[-4, 4]$   $f(x)$

MAX AT  $x = -2$   
 $y = 0$

$f(x) - 6$

DOMAIN DEC BY  $\frac{1}{2}$

$\Rightarrow f(2x)$

RANGE GOES FROM  $[-4, 4]$   
TO  $[-6, 2]$

$\Rightarrow f(2x) - 2$

MAX

$-f(2x) - 2$

TRANSFORM D:  $[-4, 4]$   
R:  $[-6, 2]$   
W/ X-AXIS REFL



