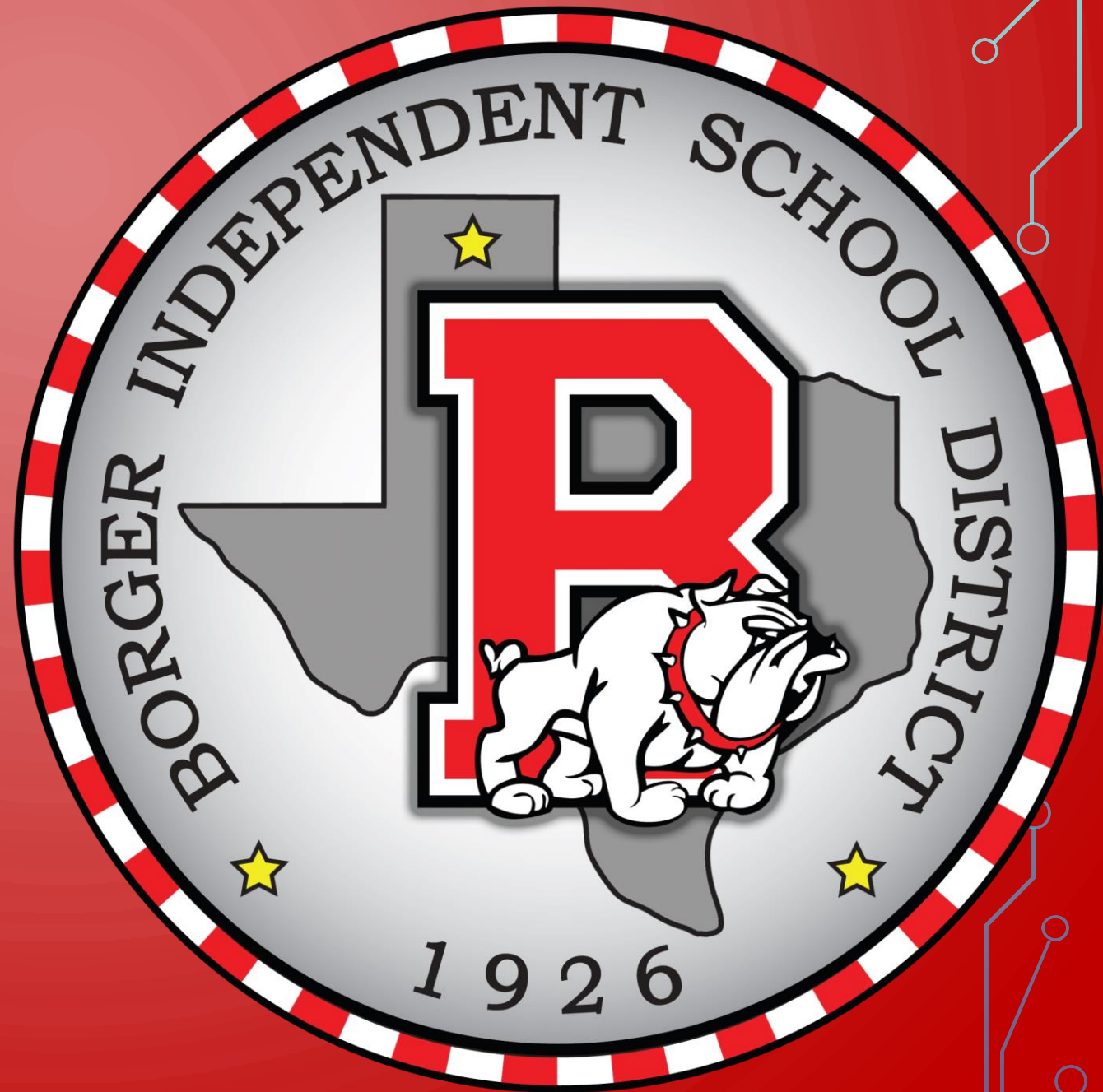

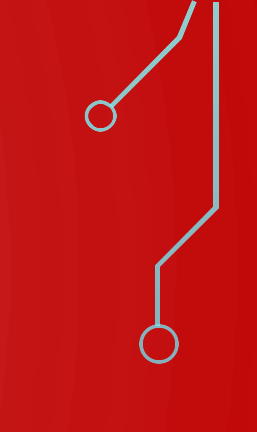
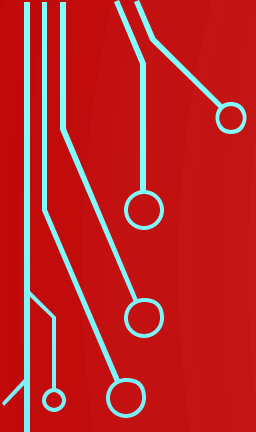


BOARD NOTES

5 SEPTEMBER 2019





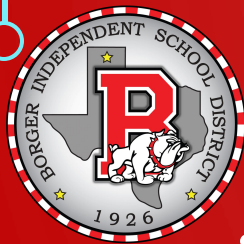
2A.2 (A) graph the functions $f(x) = x^2$, $f(x) = \sqrt{x} = \sqrt[2]{x}$, $f(x) = 1/x$, $f(x) = \sqrt[3]{x}$, $f(x) = x^3$, $f(x) = |x|$, $f(x) = b^x$, $f(x) = \log_b x$ where b is 2, 10, and e , and, when applicable, analyze the key attributes such as domain, range, intercepts, symmetries, asymptotic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



WHAT WE NEED:

- TI – 84

I WILL BE ABLE TO COMPLETE MY HOMEWORK GIVING THE

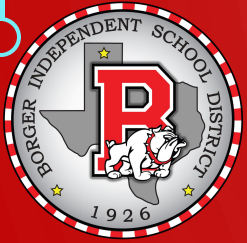
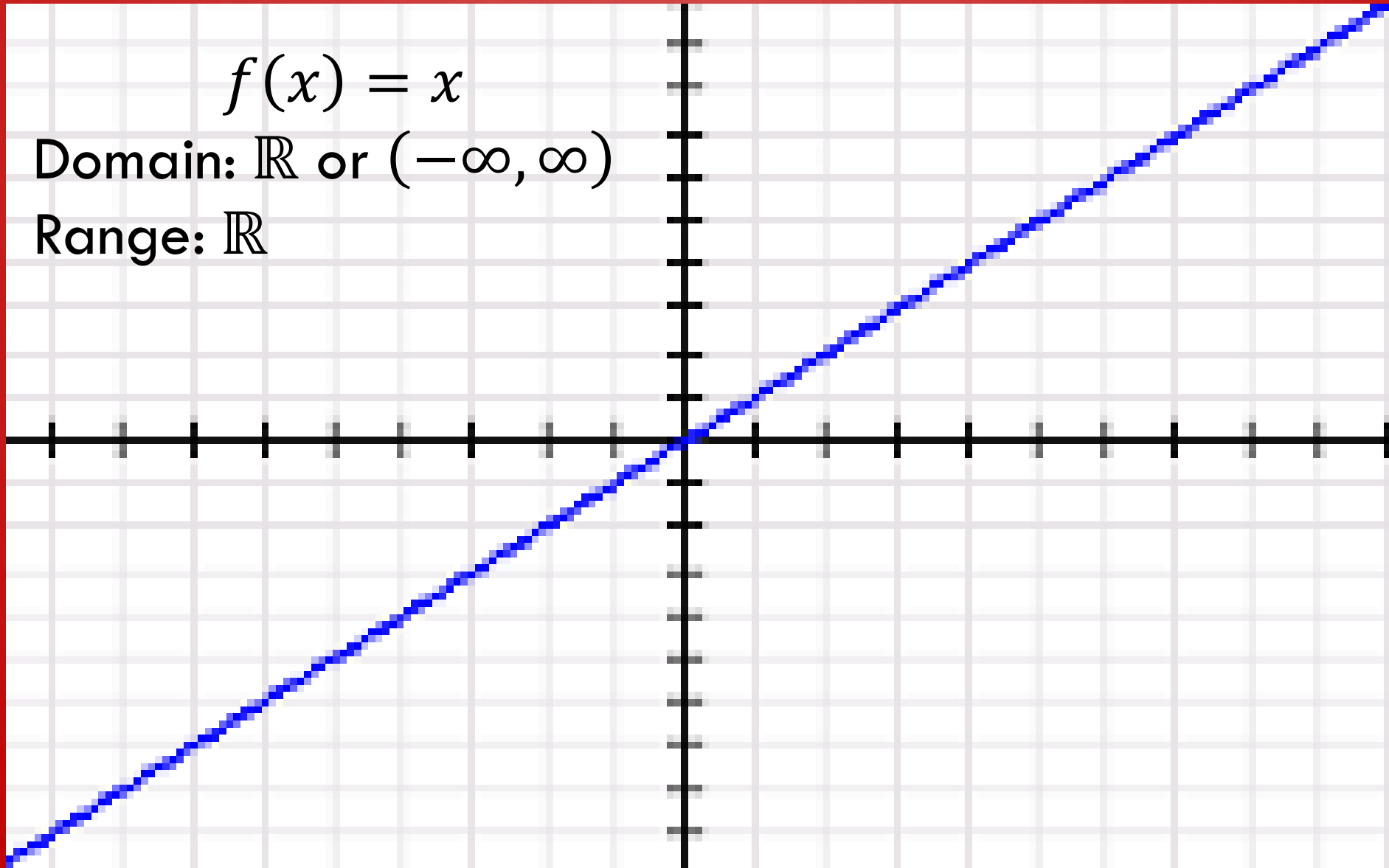
- Domain
- Range
- Intercepts (if any)
- Intervals of: Increasing / Decreasing / Constant
- Reflections
- Even / Odd / Neither
- Transformations

Linear Parent Function

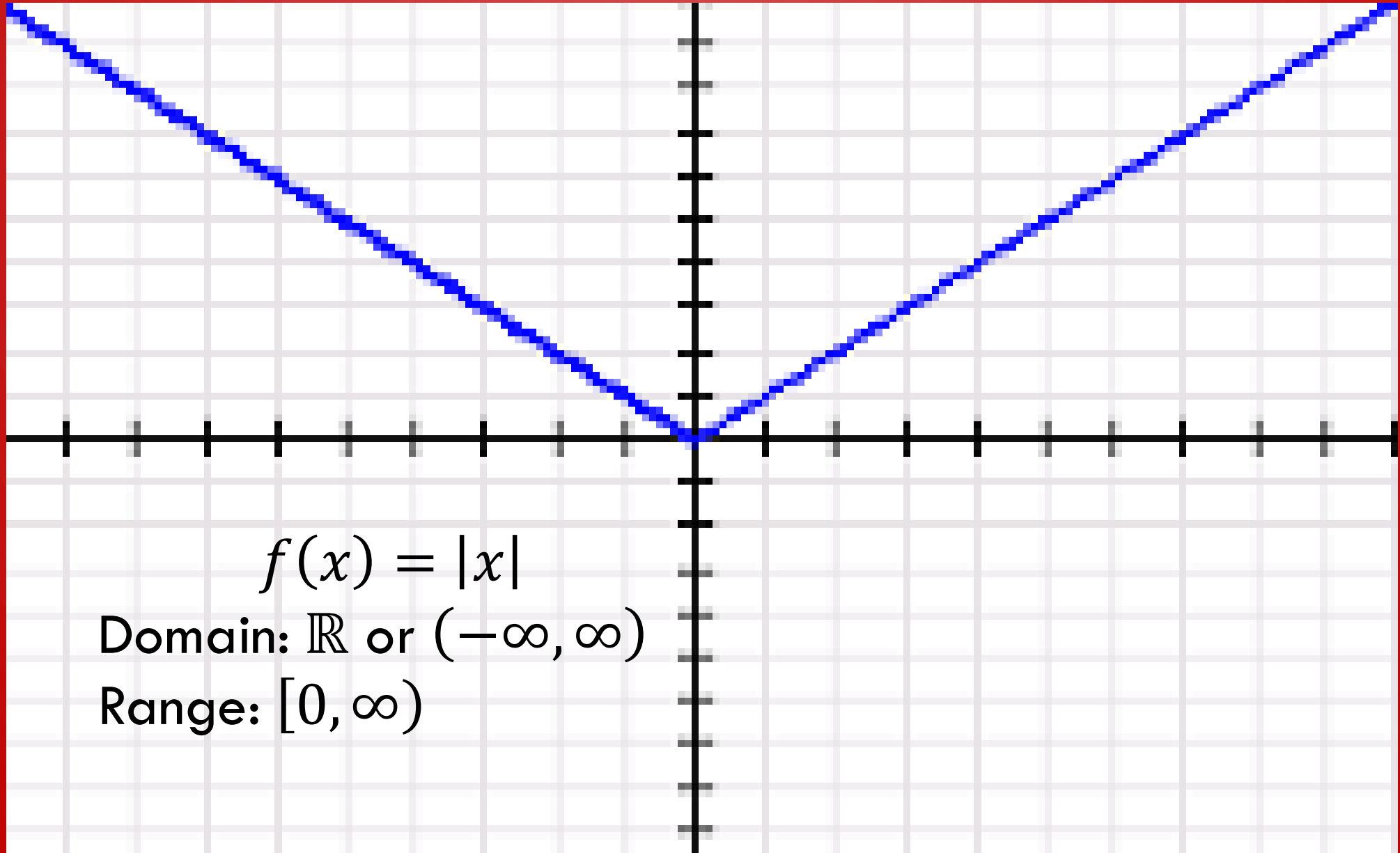
$$f(x) = x$$

Domain: \mathbb{R} or $(-\infty, \infty)$

Range: \mathbb{R}



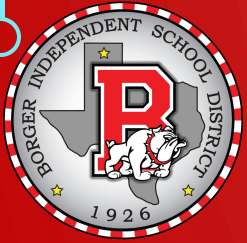
Absolute Value Parent Function



$$f(x) = |x|$$

Domain: \mathbb{R} or $(-\infty, \infty)$

Range: $[0, \infty)$



Reciprocal or Rational Parent Function

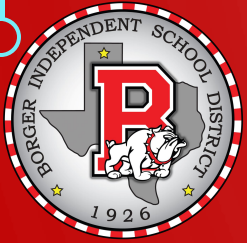
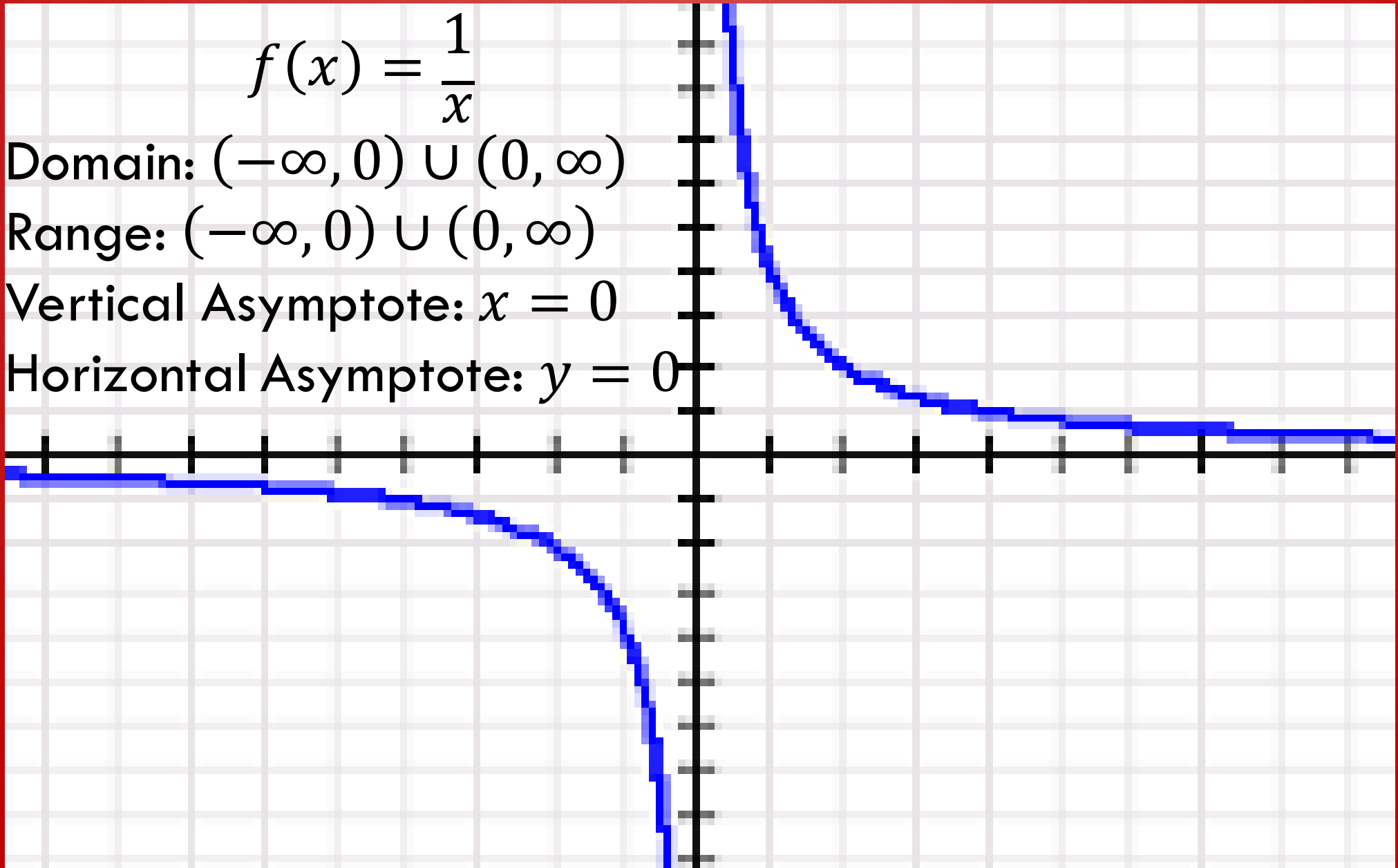
$$f(x) = \frac{1}{x}$$

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

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

Vertical Asymptote: $x = 0$

Horizontal Asymptote: $y = 0$





$f(x)$ PARENT FUNCTION

$f(x+a)$ LEFT

$f(x-a)$ RIGHT

$f(x)+a$ UP

$f(x)-a$ DOWN

$f(ax)$ HC
 $a > 1$

$af(x)$ VC
 $a < 1$

Proficient Technology User - Students will use technology as a tool to research, analyze, and complete tasks and objectives. They will demonstrate knowledge of computers, essential 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 honesty and integrity, choose ethical courses of action, and take personal responsibility for their actions.

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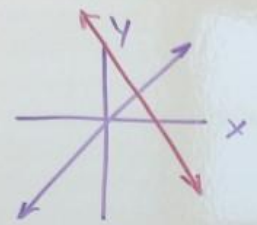


1.1 (F)
analyze
mathematical ideas
relationships to
connect
and communicate
mathematical ideas

1.1 (G)
display, explain,
and justify
mathematical ideas
and arguments
using precise
mathematical
language in
written or oral
communication

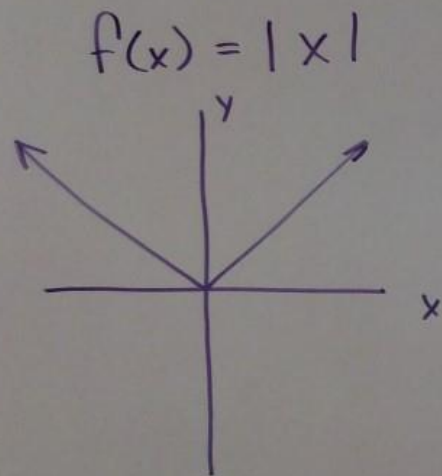
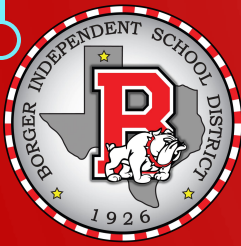


$$f(x) = x$$
$$D: \mathbb{R}$$
$$R: \mathbb{R}$$



$$f(x) = (x+4) + 3$$

- 1) $f(x) = x+5$ UP 5
- 2) $f(x+5) = (x+5)$ L 5
- 3) $f(x-5)-5 = (x-5)-5$ D 5 R 5
- 4) HC 5
- 5) VS 5
- 6) RAX VC 5



$$D: \mathbb{R}$$

$$R: [0, \infty)$$

- 1) RZ
- 2) LZ
- 3) DZ
- 4) UZ
- 5) VSZ
- 6) VCZ

$$f(x) = |x+4| + 3$$

$$f(x) = -3|x+4| - 1$$

