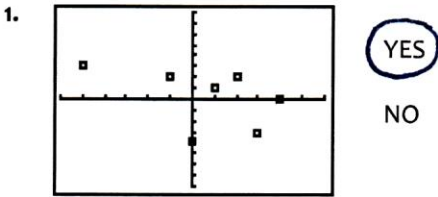


DOMAIN & RANGE II

Unit 2, Day 02 Homework

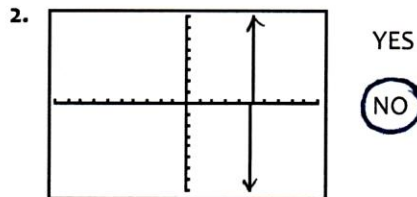
Name Master E
 Date _____ Block _____

1-12: State whether each relation is a function. Circle YES or NO. Then state the domain and range in interval notation.



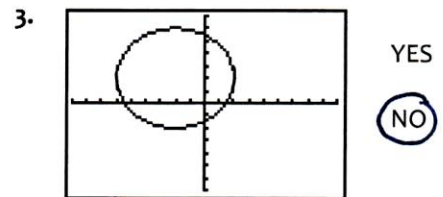
D: $\{-5, -1, 0, 1, 2, 3, 4\}$

R: $\{-4, -3, 0, 1, 2, 3\}$



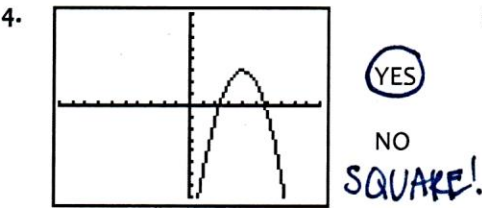
D: $\{5\}$

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



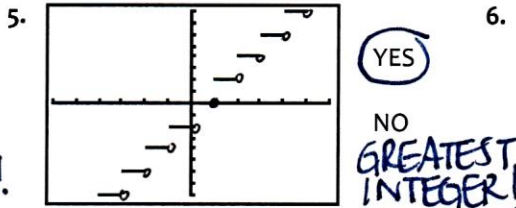
D: $[-6, 2]$

R: $[-2, 6]$



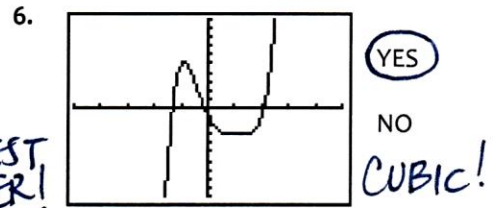
D: $(-\infty, \infty)$

R: $(-\infty, 3]$



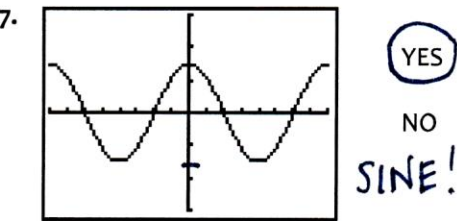
D: $(-\infty, \infty)$

R: \mathbb{Z}



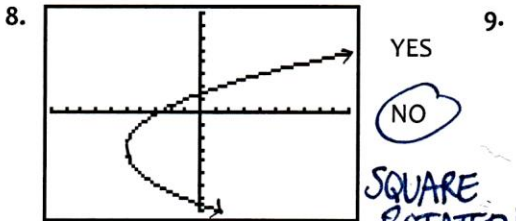
D: $(-\infty, \infty)$

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



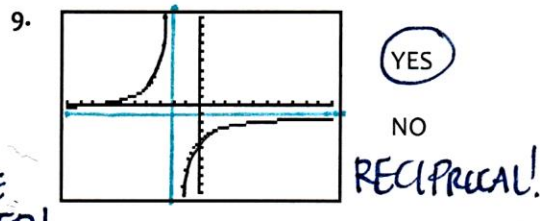
D: $(-\infty, \infty)$

R: $[-1.5, 1.5]$



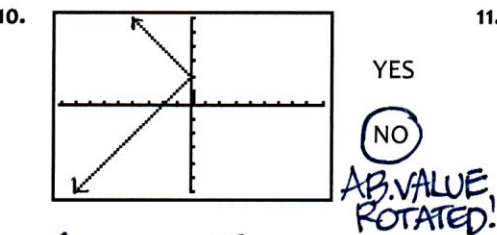
D: $[-5, \infty)$

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



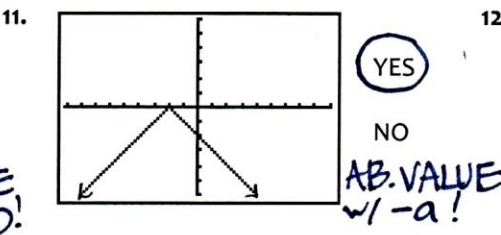
D: $(-\infty, -2) \cup (-2, \infty)$

R: $(-\infty, -1) \cup (-1, \infty)$



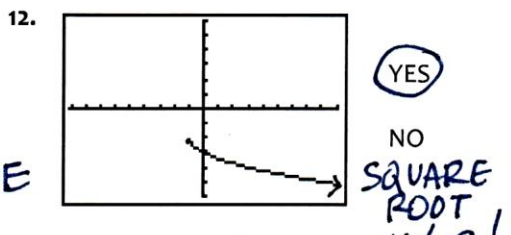
D: $(-\infty, 0]$

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



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

R: $(-\infty, 0]$



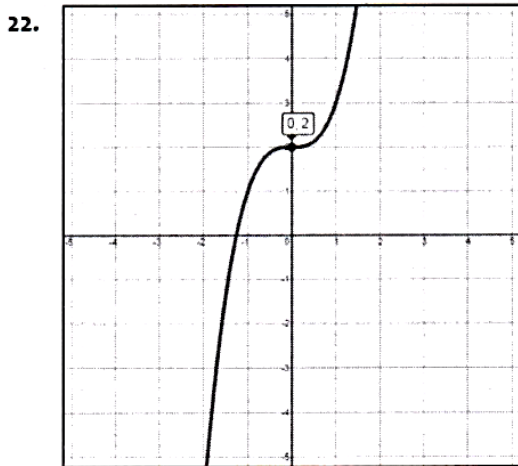
D: $[-1, \infty)$

R: $(-\infty, -2]$

13-18: Write the domain and range in interval notation for each function. Only use the calculator to check your answer.

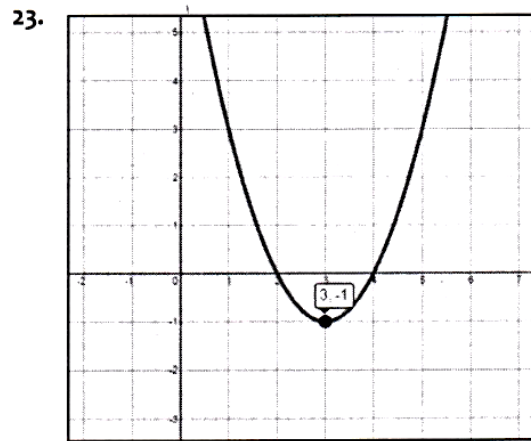
13. $y = 3x + 2$ IDENTITY!
 D: $(-\infty, \infty)$
 R: $(-\infty, \infty)$
14. $y = 2x^2 - 4$ SQUARE!
 D: $(-\infty, \infty)$
 R: $[-4, \infty)$
 $V(0, -4)$
 $k = -4$
15. $y = \sqrt{x + 1}$ SQUARE ROOT
 D: $[-1, \infty)$
 R: $[0, \infty)$
 $(-1, 0)$
 $h = -1$
16. $y = |x - 1| + 3$ AB VALUE
 D: $(-\infty, \infty)$
 R: $[3, \infty)$
 $V(1, 3)$
17. $y = \frac{x}{x + 3}$ RECIPROCAL!
 D: $(-\infty, -3) \cup (-3, \infty)$
 R: $(-\infty, 1) \cup (1, \infty)$
 $h = -3$
 $y = 1$
18. $y = \sin x$ SINE!
 D: $(-\infty, \infty)$
 R: $[-1, 1]$

22-25: Write the equation of each function. Then state the domain and range in interval notation.



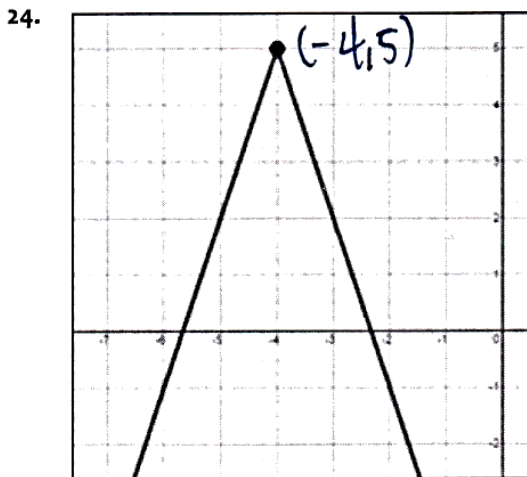
CUBIC
 shifted
 up 2!
 $k = 2$

Equation: $f(x) = x^3 + 2$
 Domain: $(-\infty, \infty)$
 Range: $(-\infty, \infty)$



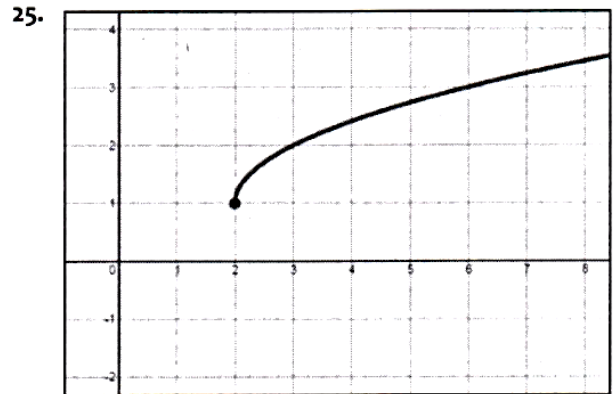
SQUARE
 shifted
 right 3
 & down 1
 $V(3, -1)$

Equation: $f(x) = (x - 3)^2 - 1$
 Domain: $(-\infty, \infty)$
 Range: $[-1, \infty)$



AB VALUE
 shifted
 left 4 &
 up 5
 $V(-4, 5)$
 $a = -3$

Equation: $f(x) = -3|x + 4| + 5$
 Domain: $(-\infty, \infty)$
 Range: $(-\infty, 5]$



SQUARE
 ROOT
 shifted
 right 2
 & up 1
 $(2, 1)$
 $= (h, k)$

Equation: $f(x) = \sqrt{x - 2} + 1$
 Domain: $[2, \infty)$
 Range: $[1, \infty)$