

ANSWER KEY

SIDE A

Name: _____

2.4 NAME THAT FUNCTION CLASSWORK

Function	Domain & Range	Intercepts	Local Maxima/Minima	Axis of Symmetry (AOS) Average Rate of Change (AROC) Asymptote	Other: continuity, end behavior, parent function, or point
G	D: $(-\infty, \infty)$ R: $[0, \infty)$	x-int: $(0, 0)$ y-int: $(0, 0)$	Max: none Min: $(0, 0)$	AOS: $x = 0$	$f(5) = 6$
E	D: $(-\infty, \infty)$ R: $[-8, \infty)$	x-int: $(-3, 0), (3, 0)$ y-int: $(0, -8)$	Max: none Min: $(0, -8)$	AOS: $x = 0$	as $x \rightarrow \pm \infty$ $f(x) \rightarrow \underline{\infty}$
B	D: $(-\infty, \infty)$ R: $(-\infty, \infty)$	x-int: $(4, 0)$ y-int: $(0, -4)$	Max: none Min: none	AROC on the interval $[1, 4]$: 1	Discontinuous or <u>Continuous?</u>
L	D: $(-\infty, \infty)$ R: $(-\infty, 9]$	x-int: $(-9, 0), (-3, 0), (3, 0)$ y-int:	Max: $(-6, 9), (6, 4)$ Min: $(-2, -7)$	AROC on the interval $[-6, -3]$: $\frac{-9}{3} = -3$	as $x \rightarrow \pm \infty$ $f(x) \rightarrow \underline{-\infty}$
F	D: $(-\infty, \infty)$ R: $(-\infty, \infty)$	x-int: $(-7, 0), (-3, 0), (3, 0)$ y-int: $(0, -3)$	Max: $(-5, 2)$ Min: $(0, -3)$	AROC on the interval $[3, 5]$: $\frac{2}{2} = 1$	Discontinuous or <u>Continuous?</u>
J	D: $(-\infty, \infty)$ R: $(-\infty, \infty)$	x-int: $(-4, 0), (-2, 0), (2, 0)$ y-int: $(0, -9.5)$	Max: $(-3, 3)$ Min: $(0.5, -10)$	AROC on the interval $[-3, -2]$: -3	$f(1) = \underline{-9}$

NAME THAT FUNCTION

Function	Domain & Range	Intercepts	Local Maxima/Minima	Axis of Symmetry (AOS) Average Rate of Change (AROC) Asymptote	Other: continuity, end behavior, parent function, or point
K	D: $(-\infty, \infty)$ R: $[-8, \infty)$	x-int: $(-5, 0), (0, 0), (5, 0)$ y-int: $(0, 0)$	Max: $(0, 0)$ Min: $(-3.5, -8), (3.5, -8)$	AOS: $x = 0$	as $x \rightarrow \pm \infty$ $f(x) \rightarrow \infty$
A	D: $(-\infty, \infty)$ R: $[-2, \infty)$	x-int: $(-5, 0), (-1, 0)$ y-int: $(0, 1)$	Max: none Min: $(-3, -2)$	AOS: $x = -3$	parent function: $y = x $
D	D: $(-\infty, \infty)$ R: $(-\infty, \infty)$	x-int: $(6, 0)$ y-int: $(0, 2)$	Max: none Min: none	AROC on the interval $[-3, 0]$: $\frac{1}{3}$	parent function: $y = x$
H	D: $(-\infty, \infty)$ R: $(-\infty, 0)$	x-int: $(0, 0)$ y-int: $(0, 0)$	Max: $(0, 0)$ Min: none	AOS: $x = 0$	$f(-4) = \underline{-4}$
C	D: $(-\infty, \infty)$ R: $(-\infty, 8]$	x-int: $(0, 0), (8, 0)$ y-int: $(0, 0)$	Max: $(4, 8)$ Min: none	AOS: $x = 4$	as $x \rightarrow \pm \infty$ $f(x) \rightarrow -\infty$
I	D: $\{x \mid x \neq 0\}$ R: $\{y \mid y \neq 0\}$	x-int: none y-int: none	Max: none Min: none	vertical asymptote: $x = 0$ horizontal asymptote: $y = 0$	Discontinuous