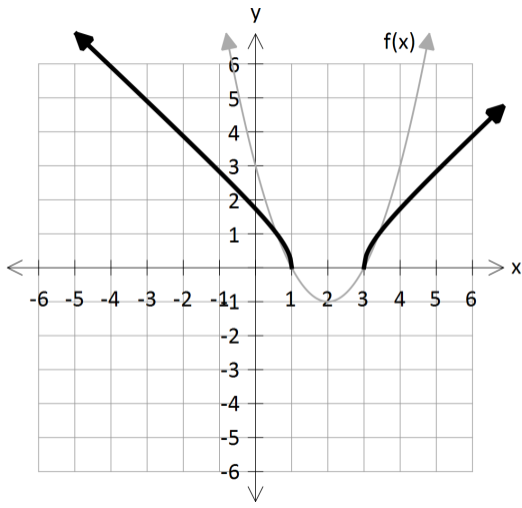


Pre-Calculus 40S: Answers to the Review of Radical and Rational Functions

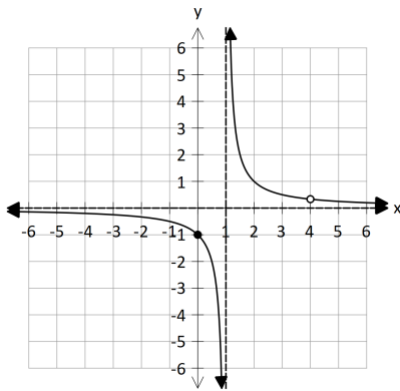
1.



Domain of $y = \sqrt{f(x)}$: $(-\infty, 1] \cup [3, \infty)$

Range of $y = \sqrt{f(x)}$: $[0, \infty)$

2. a)



NPV's: $x = 1, 4$

V.A.: $x = 1$

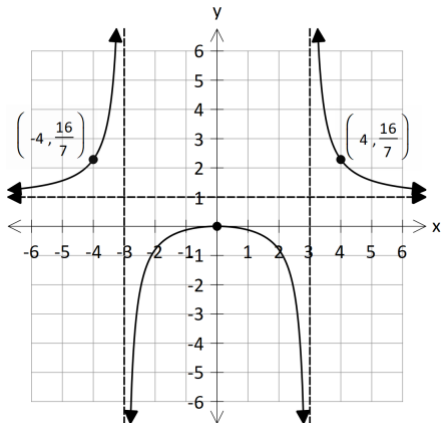
Hole: $(4, \frac{1}{3})$

H.A.: $y = 0$

x-int(s): none

y-int: -1

b)



NPV's: $x = \pm 3$

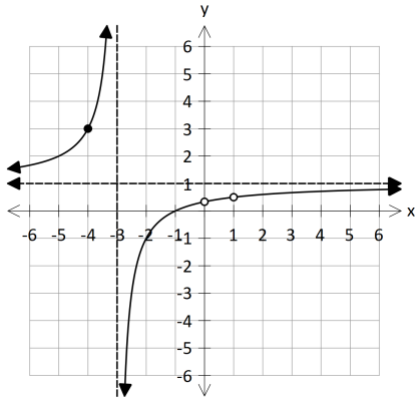
V.A.: $x = \pm 3$

H.A.: $y = 1$

x-int(s): 0

y-int: 0

c)



NPV's: $x = -3, 0, 1$

V.A.: $x = -3$

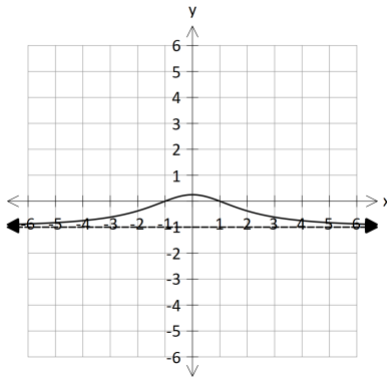
Holes: $(0, \frac{1}{3}), (1, \frac{1}{2})$

H.A.: $y = 1$

x-int(s): -1

y-int: none

d) $y = \frac{1-x^2}{x^2+4}$



NPV's: none

V.A.: none

Holes: none

H.A.: $y = -1$

x-int(s): ± 1

y-int: $\frac{1}{4}$

3. a) -6

b) $-2.317; 4.317;$

c) $-2.382; -4.618;$

d) $-0.105; -1.348; 0.786$

e) 13

f) 8.828

4. The domain of $y = x^2 - 9$ is the set of all real numbers. The domain of $y = \sqrt{x^2 - 9}$ does not include the set of real numbers between $(-3, 3)$, which are the x -intercepts of the function $y = x^2 - 9$.