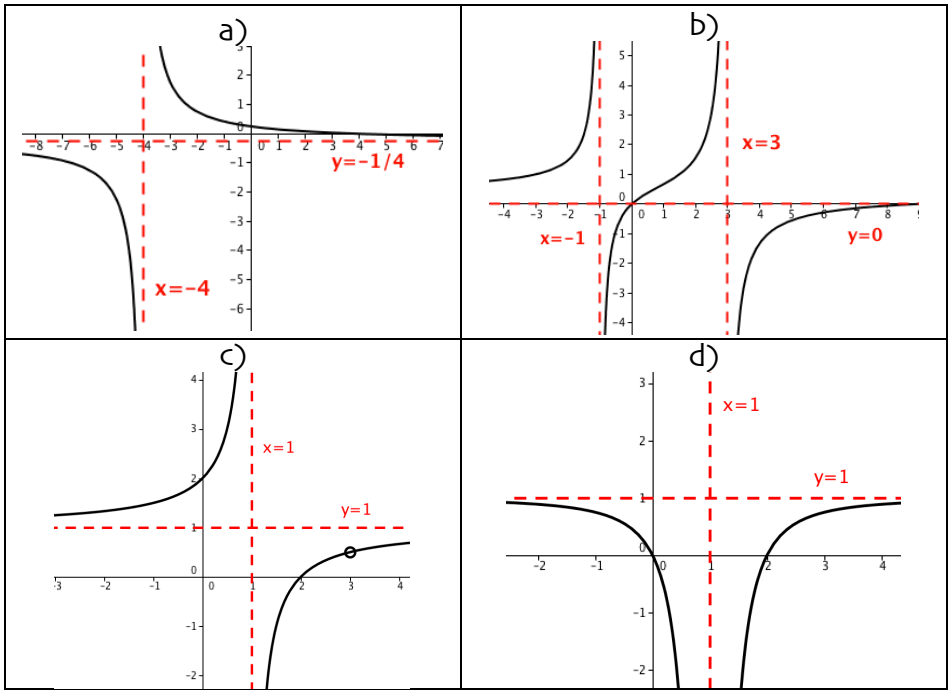
A2: Sketching Rational Functions - WKST 1

I. For each function find:

a) Domain *(SET Notation)* b) X-intercepts c) Y-intercept d) Holes e) Asymptotes

1. $f(x)=\dfrac{5x}{x+2}$	2. $y=\dfrac{x^2-4}{2x^3-8x}$	3. $g(x)=\dfrac{4}{(x-5)^2}$
4. $f(x)=\dfrac{x^3-4x^2-4x+16}{x^3-5x^2+4x}$	5. $y=\dfrac{3}{x^2+1}$	

II. Match each function with its graph.



6. $f(x)=\dfrac{x-4}{-4x-16}$

7. $f(x)=\dfrac{x^2-5x+6}{x^2-4x+3}$

8. $f(x)=\dfrac{x^2-2x}{x^2-2x+1}$

9. $f(x)=\dfrac{x^2-9x}{3x^2-6x-9}$

ANSWERS

1.

a) $\{x \mid x \neq -2\}$	b) $x = 0$	c) $(0,0)$	d) none	e) HA: $y = 5$, VA: $x = -2$

2.

a) $\{x \mid x \neq \pm 2\}$	b) none	c) none	d) $\left(2, \frac{1}{4}\right)$, $\left(-2, -\frac{1}{4}\right)$	e) HA: $y = 0$, VA: $x = 0$

3.

a) $\{x \mid x \neq 5\}$	b) none	c) $\left(0, \frac{4}{25}\right)$	d) none	e) HA: $y = 0$, VA: $x = 5$

4.

a) $\{x \mid x \neq 0,1,4\}$	b) $x = \pm 2$	c) none	d) $(4,1)$	e) HA: $y = 1$, VA: $x = 0$ & $x = 1$

5.

a) $\{x \mid x \in R\}$	b) none	c) $(0,3)$	d) none	e) HA: $y = 0$, VA: none

6. A
7. C
8. D
9. B