

Find all of the listed parts of each rational function and sketch a rough graph.

1.  $f(x) = \frac{3x-6}{x}$

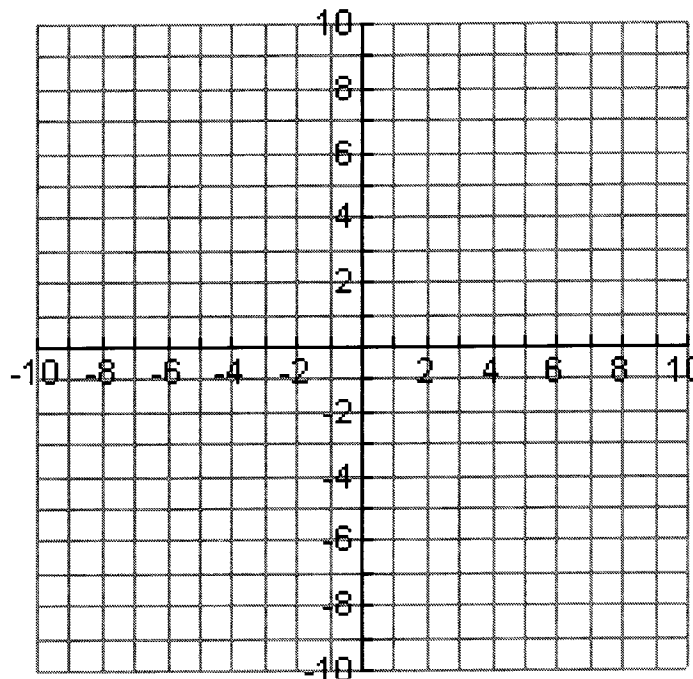
V.A.: \_\_\_\_\_

Roots: \_\_\_\_\_

Y-int: \_\_\_\_\_

H.A.: \_\_\_\_\_

Holes: \_\_\_\_\_



2.  $f(x) = \frac{x}{x^2 - 6x - 27}$

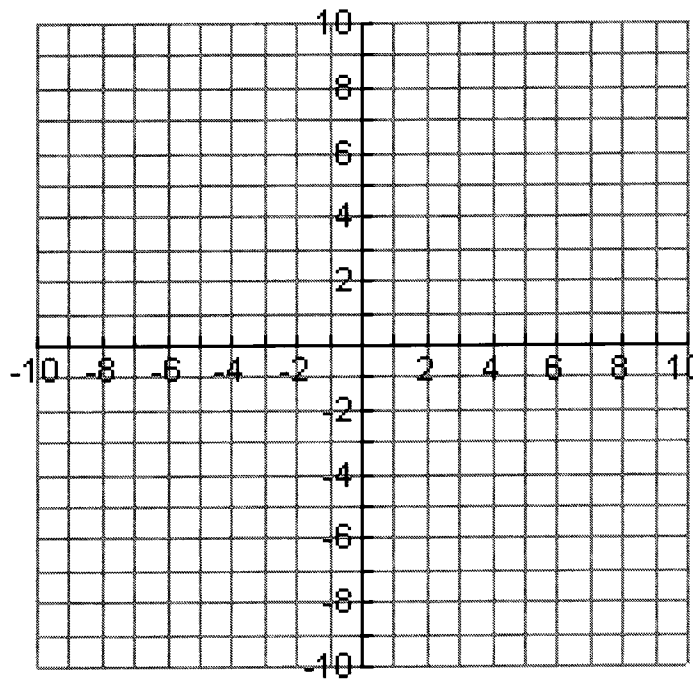
V.A.: \_\_\_\_\_

Roots: \_\_\_\_\_

Y-int: \_\_\_\_\_

H.A.: \_\_\_\_\_

Holes: \_\_\_\_\_



Algebra 2H/Trig Worksheet 4.2.4  
Rational Functions Review

Find all of the listed parts of each rational function and sketch a rough graph.

3.  $f(x) = \frac{x^2 + 7x - 18}{x + 4}$

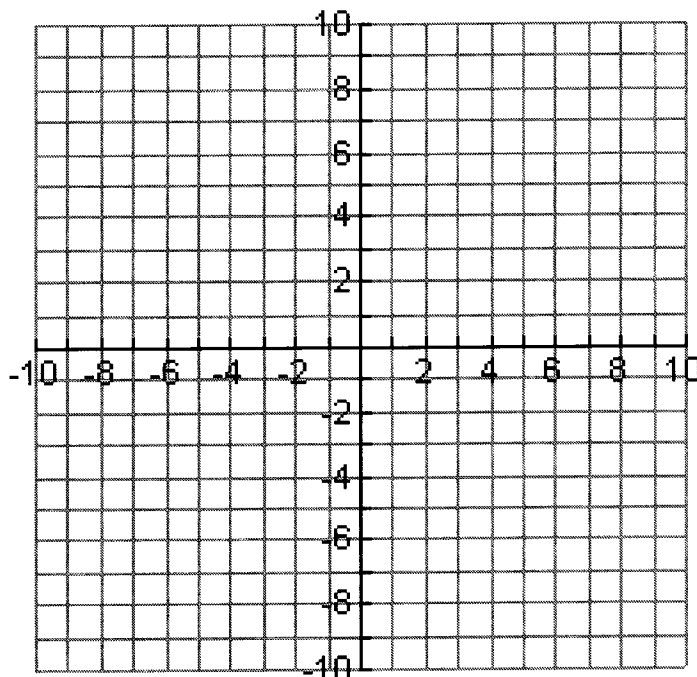
V.A.: \_\_\_\_\_

Roots: \_\_\_\_\_

Y-int: \_\_\_\_\_

H.A.: \_\_\_\_\_

Holes: \_\_\_\_\_



4.  $f(x) = \frac{6x^2 - 54}{x^2 - 10x + 21}$

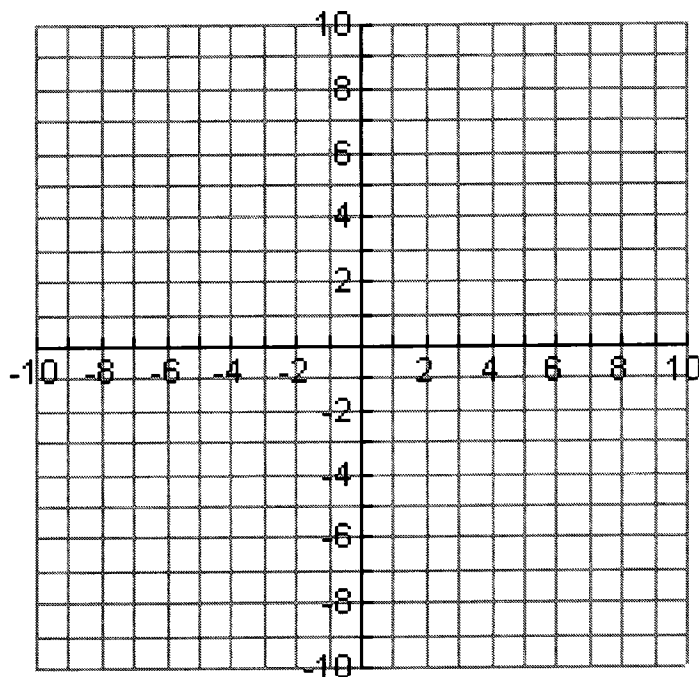
V.A.: \_\_\_\_\_

Roots: \_\_\_\_\_

Y-int: \_\_\_\_\_

H.A.: \_\_\_\_\_

Holes: \_\_\_\_\_



Algebra 2H/Trig Worksheet 4.2.4  
Rational Functions Review

Find all of the listed parts of each rational function and sketch a rough graph.

5.  $f(x) = \frac{x^3 + x^2 - 9x - 9}{x^3 + x^2 - 16x - 16}$

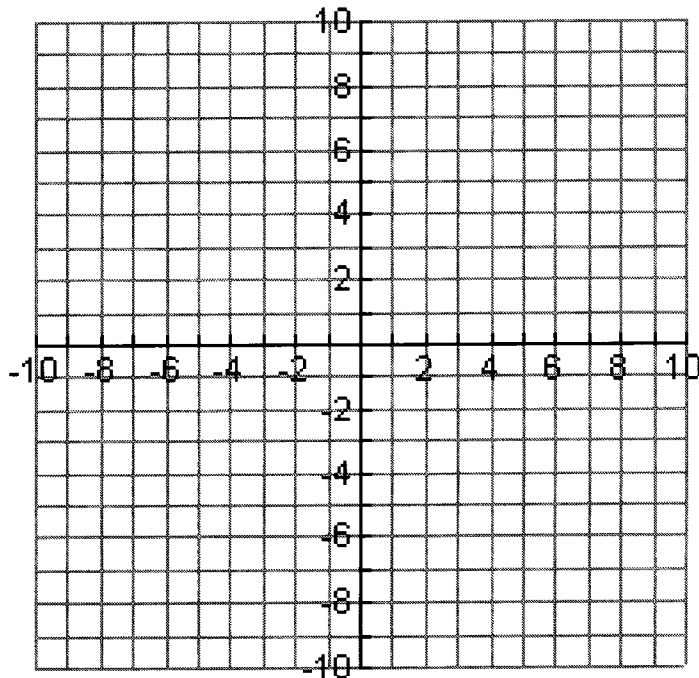
V.A.: \_\_\_\_\_

Roots: \_\_\_\_\_

Y-int: \_\_\_\_\_

H.A.: \_\_\_\_\_

Holes: \_\_\_\_\_



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

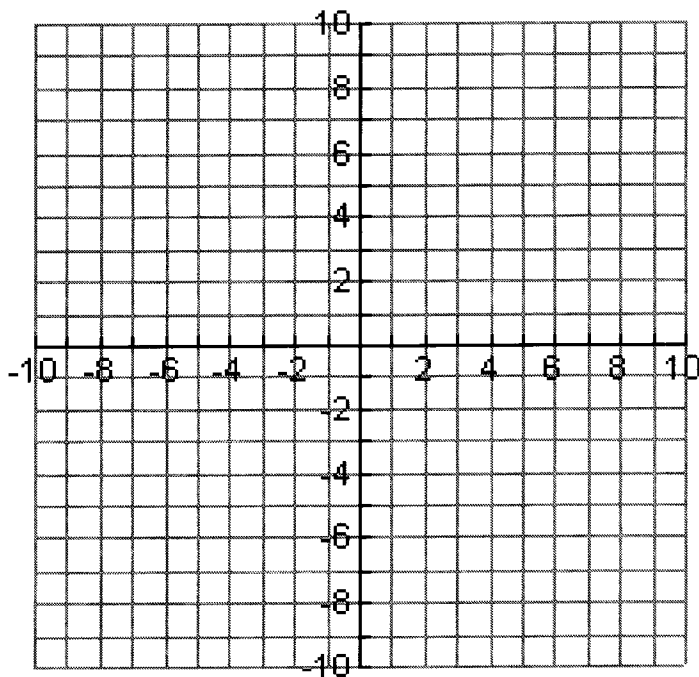
V.A.: \_\_\_\_\_

Roots: \_\_\_\_\_

Y-int: \_\_\_\_\_

H.A.: \_\_\_\_\_

Holes: \_\_\_\_\_



Algebra 2H/Trig Worksheet 4.2.4  
Rational Functions Review

Find all of the listed parts of each rational function and sketch a rough graph.

7.  $f(x) = \frac{x^2}{x^2 - 9}$

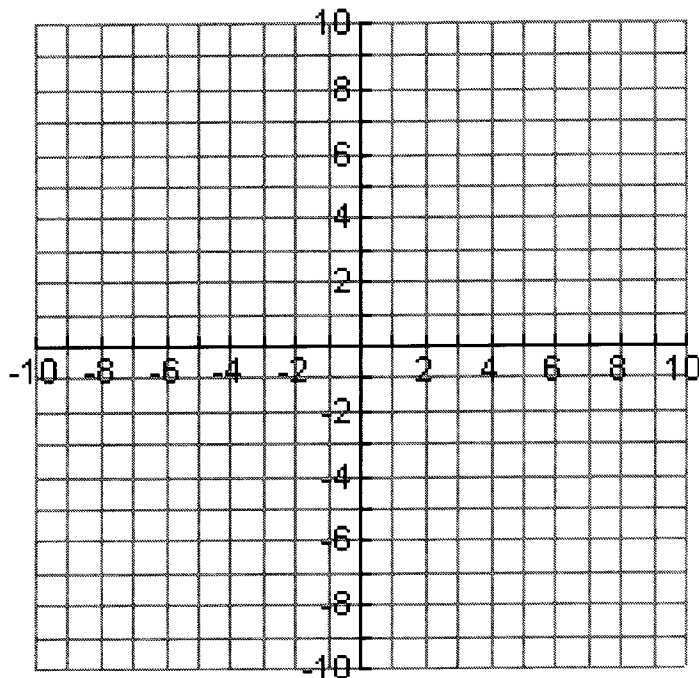
V.A.: \_\_\_\_\_

Roots: \_\_\_\_\_

Y-int: \_\_\_\_\_

H.A.: \_\_\_\_\_

Holes: \_\_\_\_\_



8.  $f(x) = \frac{-5x}{x^2 - 3x}$

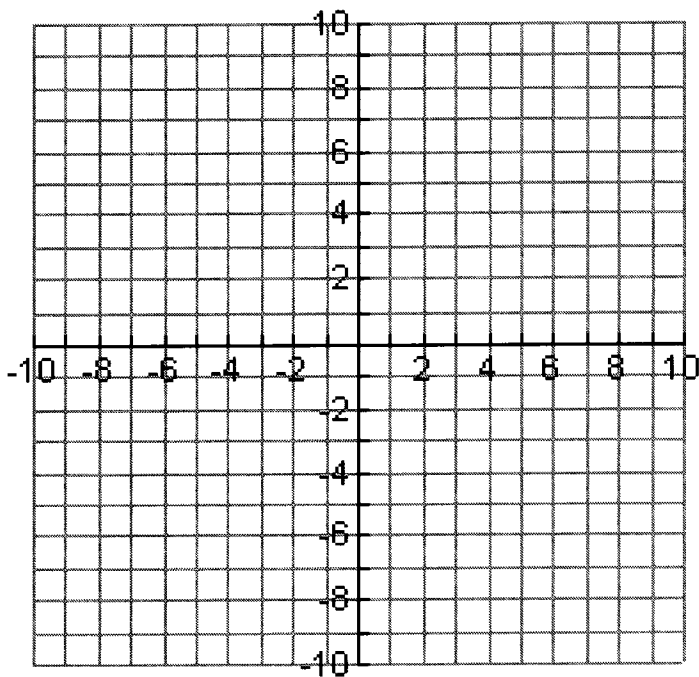
V.A.: \_\_\_\_\_

Roots: \_\_\_\_\_

Y-int: \_\_\_\_\_

H.A.: \_\_\_\_\_

Holes: \_\_\_\_\_



Algebra 2H/Trig Worksheet 4.2.4  
Rational Functions Review

Find all of the listed parts of each rational function and sketch a rough graph.

9.  $f(x) = \frac{x^2 + 2x}{x - 1}$

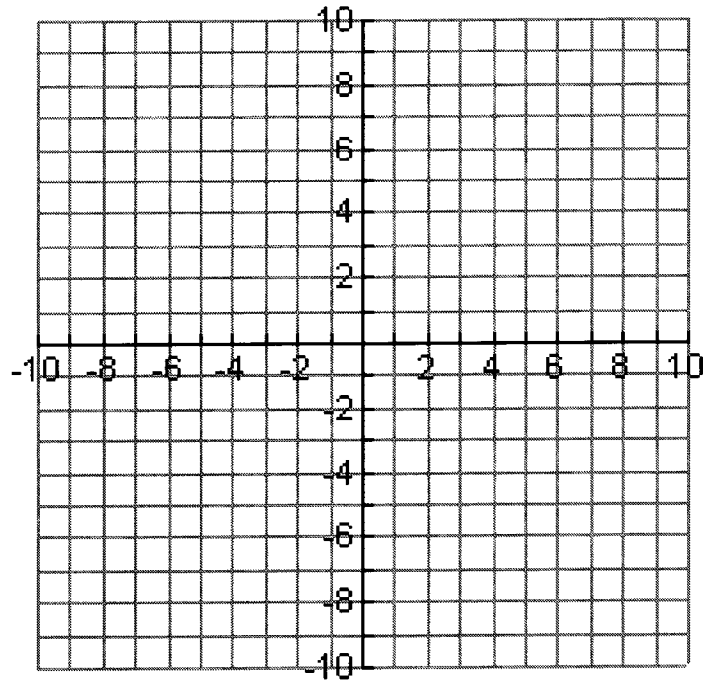
V.A.: \_\_\_\_\_

Roots: \_\_\_\_\_

Y-int: \_\_\_\_\_

H.A.: \_\_\_\_\_

Holes: \_\_\_\_\_



10.  $f(x) = \frac{x^3 - 2x^2 - 19x + 20}{x^3 - 21x + 20}$

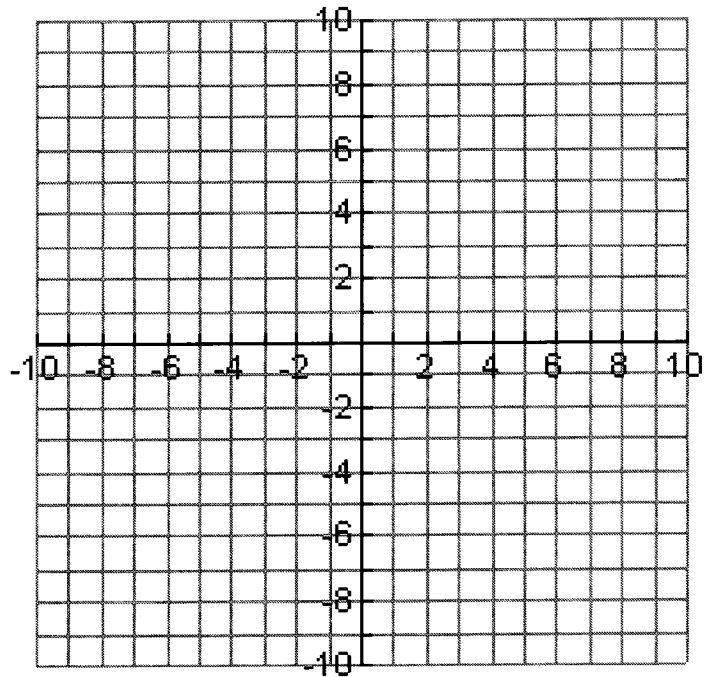
V.A.: \_\_\_\_\_

Roots: \_\_\_\_\_

Y-int: \_\_\_\_\_

H.A.: \_\_\_\_\_

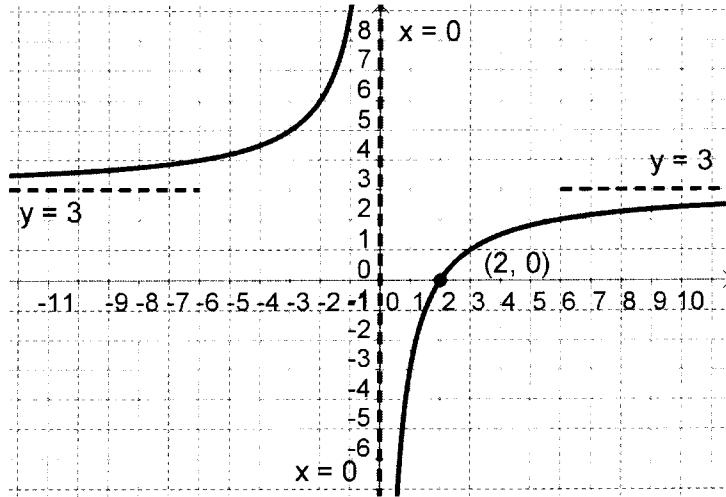
Holes: \_\_\_\_\_



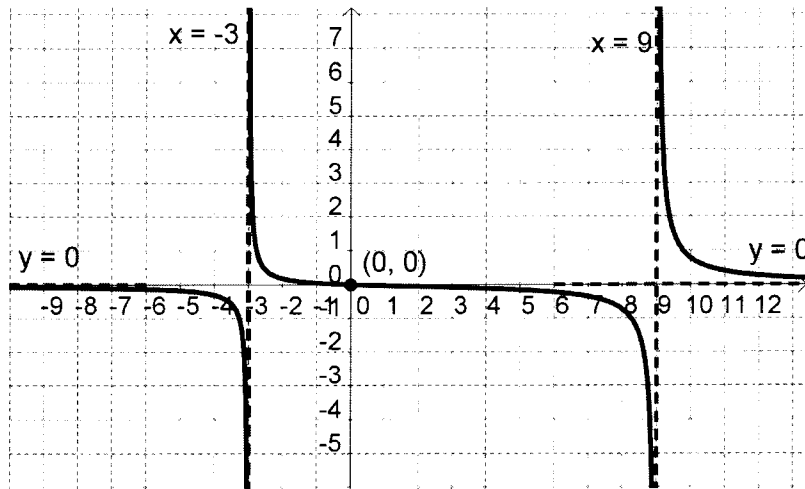
Algebra 2H/Trig Worksheet 4.2.4  
Rational Functions Review

ANSWERS:

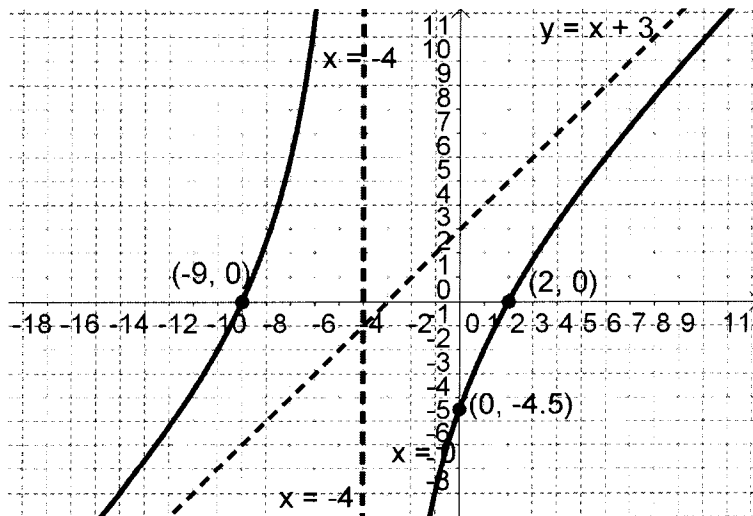
1. **V.A:**  $x = 0$   
**Root:** 2  
**y-int:** none  
**H.A:**  $y = 3$   
**Hole:** none



2. **V.A:**  $x = -3, x = 9$   
**Root:** 0  
**y-int:** 0  
**H.A:**  $y = 0$   
**Hole:** none



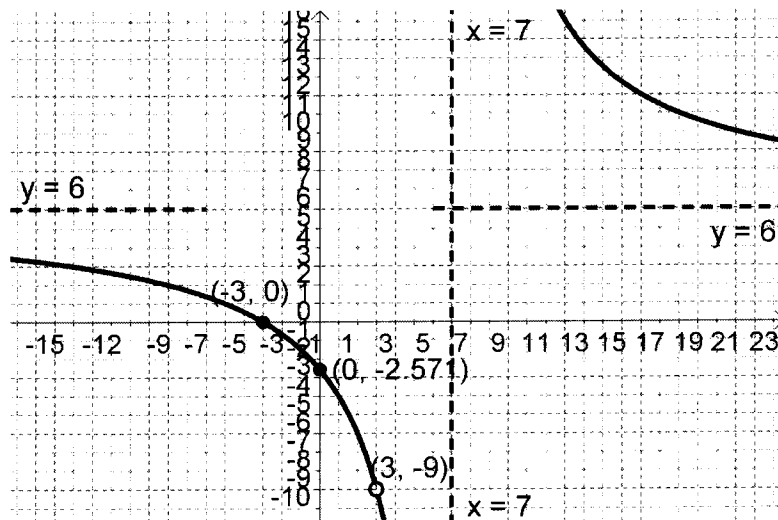
3. **V.A:**  $x = -4$   
**Root:** -9, 2  
**y-int:**  $-\frac{9}{2}$   
**Slant Asymptote:**  $y = x + 3$   
**Hole:** none



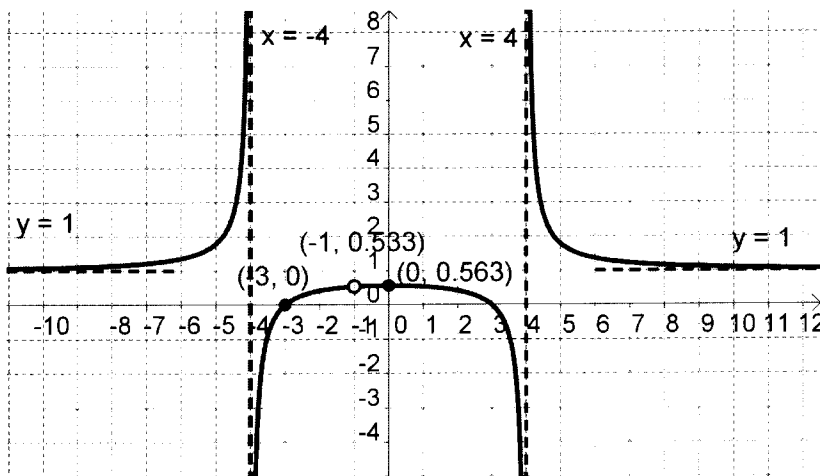
Algebra 2H/Trig Worksheet 4.2.4  
Rational Functions Review

ANSWERS (continued):

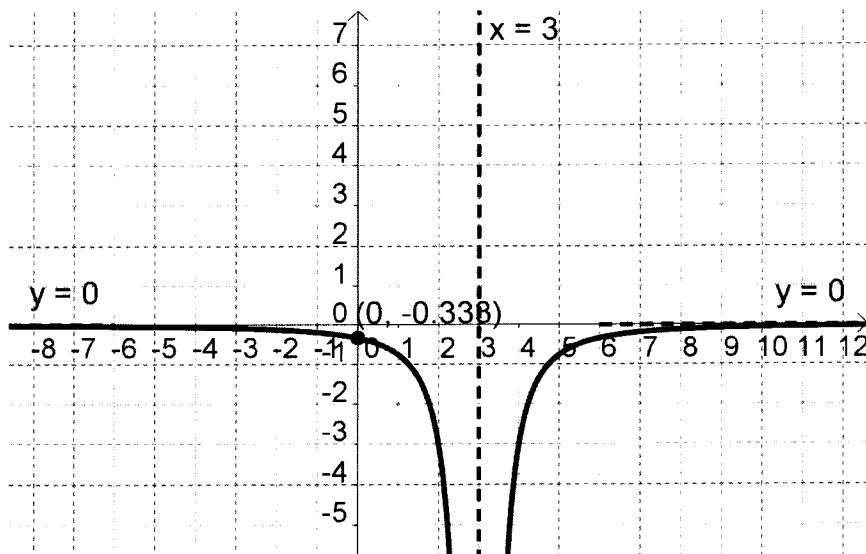
4. V.A:  $x = 7$   
 Root:  $-3$   
 y-int:  $-\frac{18}{7}$   
 H.A.:  $y = 6$   
 Hole:  $(3, -9)$



5. V.A:  $x = -4, x = 4$   
 Root:  $-3, 3$   
 y-int:  $\frac{9}{16}$   
 H.A.:  $y = 1$   
 Hole:  $(-1, \frac{8}{15})$



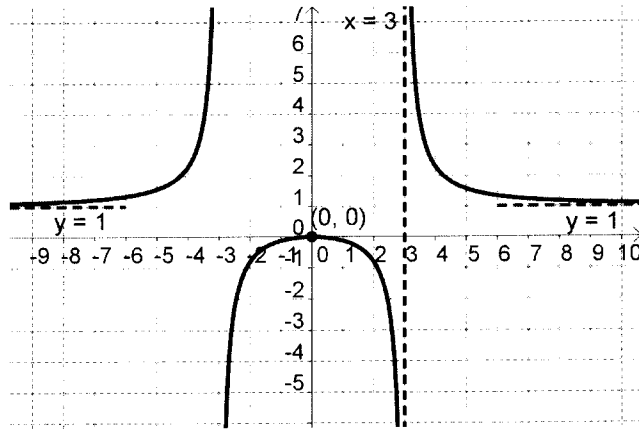
6. V.A:  $x = 3$   
 Root: none  
 y-int:  $-\frac{1}{3}$   
 H.A.:  $y = 0$   
 Hole: none



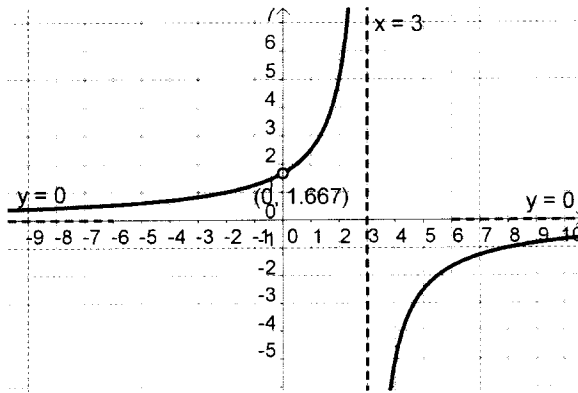
Algebra 2H/Trig Worksheet 4.2.4  
Rational Functions Review

ANSWERS (continued):

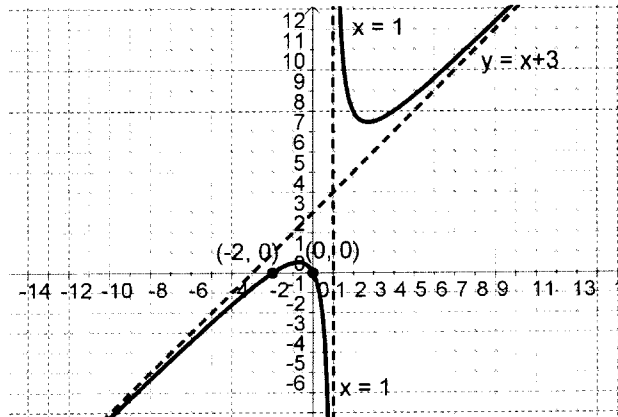
7. V.A:  $x = -3, x = 3$   
 Root: 0  
 y-int: 0  
 H.A.:  $y = 1$   
 Hole: none



8. V.A:  $x = 3$   
 Root: none  
 y-int: none  
 H.A.:  $y = 0$   
 Hole:  $(0, \frac{5}{3})$



9. V.A:  $x = 1$   
 Root: 0, -2  
 y-int: 0  
 Slant Asymptote:  $y = x + 3$   
 Hole: none



10. V.A:  $x = -5, x = 4$   
 Root: -4, 5  
 y-int: 1  
 H.A.:  $y = 1$   
 Hole:  $(1, \frac{10}{9})$

