BC

3.5 Homework p. 205 #4-34 even, 56-72 D252

4) c

6) a

8) e

10) $+\infty$

12) 8

14) 4

16) a) $+\infty$
b) 5
c) 0

18) a) 0
b) $-2/3$
c) $-\infty$

20) a) 0
b) $5/4$
c) $+\infty$

22) $1/3$

24) 4

26) $-\infty$

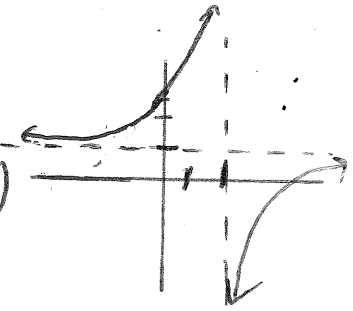
28) $\lim_{x\to-\infty} \frac{x}{\sqrt{x^2+1}}$ $\lim_{x\to-\infty} \frac{\frac{x}{x}}{-\sqrt{\frac{x^2}{x^2}+\frac{1}{x^2}}} = \frac{1}{-\sqrt{1+0}} = \boxed{-1}$

30) $\lim_{x\to-\infty} \frac{-3x+1}{\sqrt{x^2+x}} = \lim_{x\to-\infty} \frac{\frac{-3x}{x}+\frac{1}{x}}{-\sqrt{\frac{x^2}{x^2}+\frac{x}{x^2}}} = \frac{-3+0}{-\sqrt{1+0}} = \boxed{3}$

32) $\lim_{x\to\infty} \frac{x-\cos x}{x}$ $\lim_{x\to\infty} \frac{x}{x} - \frac{\cos x}{x} = 1-0 = \boxed{1}$

34) $\lim_{x\to\infty} \cos\left(\frac{1}{x}\right)$ $\cos\left(\frac{1}{\infty}\right) = \cos 0 = \boxed{1}$

56) $y = \frac{x-3}{x-2}$



Intercepts: $(3,0)$, $(0,3/2)$

H.A: $y=1$

V.A: $x=2$

Symmetry: none

60) $y = \frac{x^2}{x^2-9}$

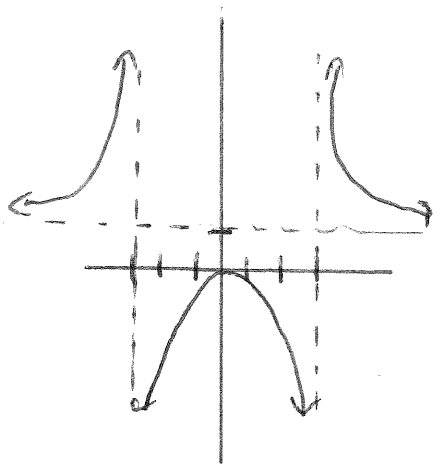
Intercept: $(0,0)$

Symmetry: y-axis

HA: $y = 1$

VA: $x = 3, -3$

Rel. max $(0,0)$



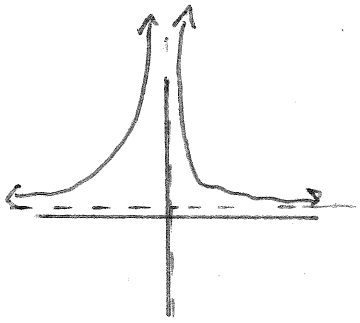
64) $x^2y = 4$ $\quad y = \frac{4}{x^2}$

Int: (none)

Symmetry: y-axis

HA: $y = 0$

VA: $x = 0$



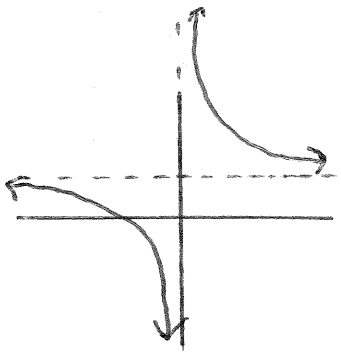
68) $y = 1 + \frac{1}{x}$

Int: $(-1, 0)$

Symmetry: none

HA: $y = 1$

VA: $x = 0$



72) $y = \frac{x}{\sqrt{x^2-4}}$

Int: none

Symmetry: origin

HA: $y = 1, y = -1$

VA: $x = 2, -2$