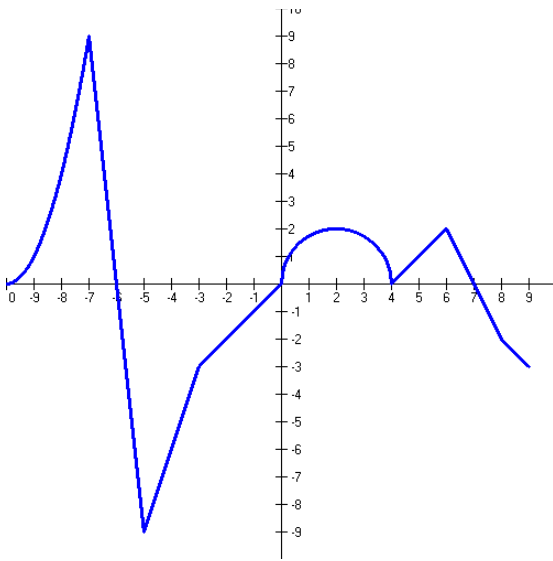
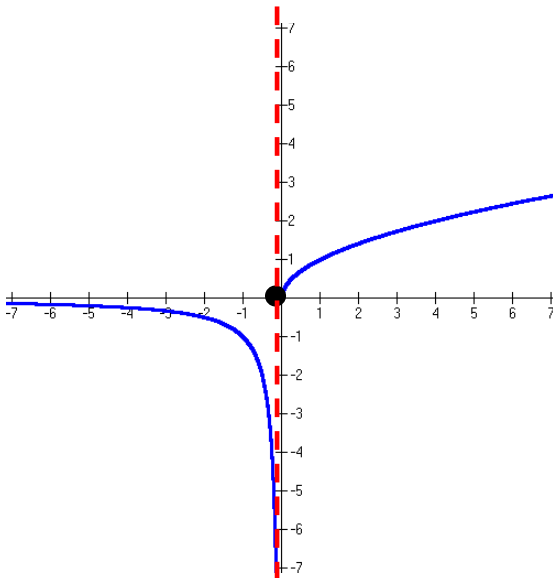


Solutions to POW due 1/20/10



Graph of $f(x)$ defined on $[-10, 9]$

1. On what interval(s) is $f(x)$ decreasing? $(-7, -5), (2, 4), (6, 9)$
2. Where is the maximum of $f(x)$? $x = -7$
3. What are the zeros of $f(x)$? $-10, -6, 0, 4, 7$
4. State the domain of $f(x)$ using interval notation. $[-10, 9]$
5. State the range of $f(x)$ using interval notation. $[-9, 9]$



Graph of $g(x)$ defined on $(-\infty, \infty)$

1. On what interval(s) is $g(x)$ concave down? $(-\infty, 0), (0, \infty)$
2. State the range of $g(x)$ using interval notation. $(-\infty, \infty)$
3. State the interval(s) on which $g(x)$ is decreasing. $(-\infty, 0)$
4. State the maximum value of the function (if any). **none**
5. If $g(x)$ represents a piecewise function with two pieces, write the equation of this piecewise function.

$$g(x) = \begin{cases} \frac{1}{x} & x < 0 \\ \sqrt{x} & x \geq 0 \end{cases}$$

POW due 1/27/10

Evaluate each of the following. Each will be worth $\frac{1}{2}$ point.

$\sin \frac{\pi}{3}$		$\sec \frac{3\pi}{4}$		$\sin \frac{\pi}{6}$		$\tan \frac{2\pi}{3}$	
$\cos \frac{7\pi}{4}$		$\tan \frac{5\pi}{4}$		$\csc \frac{\pi}{3}$		$\cos \frac{3\pi}{2}$	
$\tan \frac{\pi}{2}$		$\csc \frac{\pi}{2}$		$\cot \frac{2\pi}{3}$		$\csc \frac{2\pi}{3}$	
$\csc \frac{\pi}{4}$		$\sin \frac{5\pi}{6}$		$\sec \frac{11\pi}{6}$		$\cot \frac{5\pi}{6}$	
$\sec \pi$		$\cot \frac{\pi}{3}$		$\cos \frac{3\pi}{4}$		$\sin \frac{\pi}{4}$	

