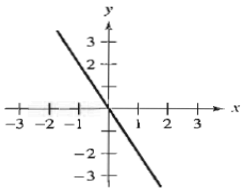
CH.3 3-6 Graphing Name: _____

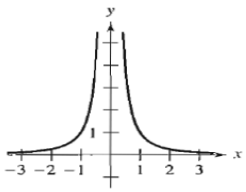
In Exercises 1–4, match the graph of f in the left column with that of its derivative in the right column.

Graph of f

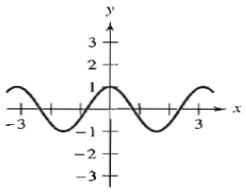
1.



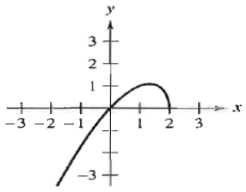
2.



3.

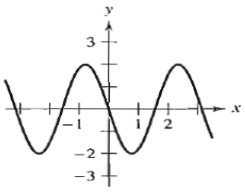


4.

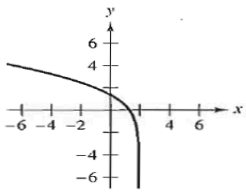


Graph of f′

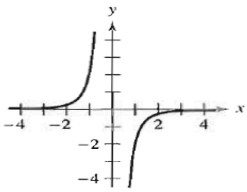
(a)



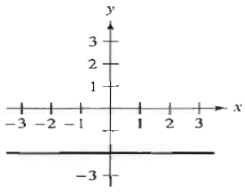
(b)



(c)



(d)



5) Suppose $f'(x) < 0$ for all x in the interval $(2,8)$. Explain why $f(3) > f(5)$.

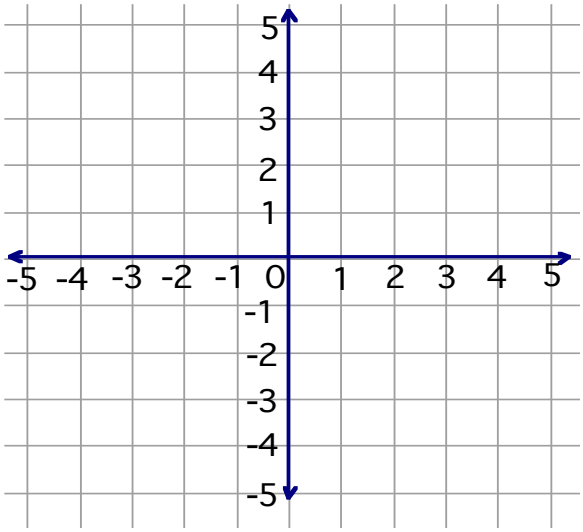
Sketch each graph (Label the maximum, minimum and inflection points)

6)

x – int	y – int	v.asym.	h.asym.
$(0,0)$	$(0,0)$	none	$y = 0$

rel.max.	rel.min.	inc.	dec.
$(-1,4)$	$(1,-4)$	$(-\infty,-1)$ $(1,\infty)$	$(-1,1)$

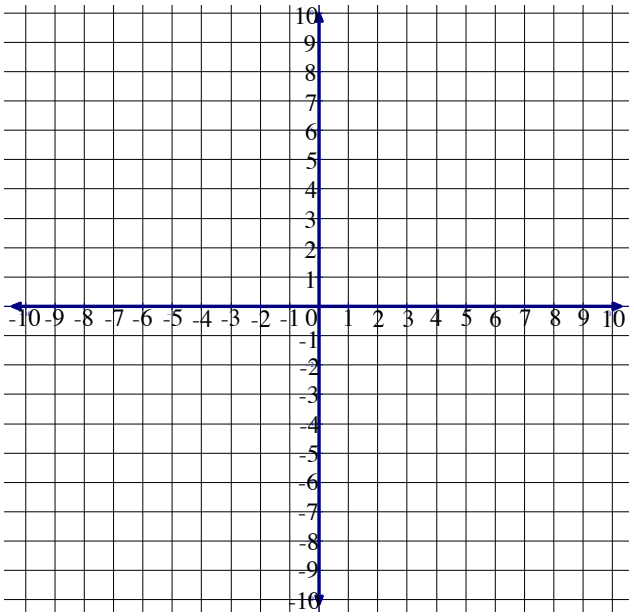
inf .pts.	conc.up	conc.down
$(0,0)$ $(-\sqrt{3},2\sqrt{3})$ $(\sqrt{3},-2\sqrt{3})$	$(-\infty,-\sqrt{3})$ $(0,\sqrt{3})$	$(-\sqrt{3},0)$ $(\sqrt{3},\infty)$



Note all relevant properties of f and sketch the graph $\left(\text{Label the maximum, minimum and inflection points}\right)$

7) $f(x)=8x^3-4x^4$

$x-$ int $y-$ int v.asym. h.asym. rel.max. rel.min. inc. dec. inf .pts. conc.up conc.down



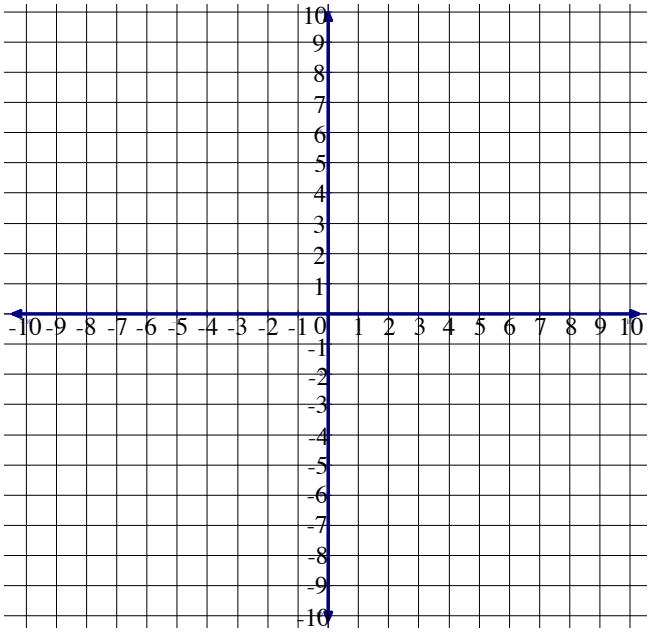
8) $f(x)=\frac{x^3}{3}+x^2-3x+1$

$x-$ int $y-$ int v.asym. h.asym. rel.max. rel.min. inc. dec. inf .pts. conc.up conc.down

$(-4.9,0)$

$(1.6,0)$

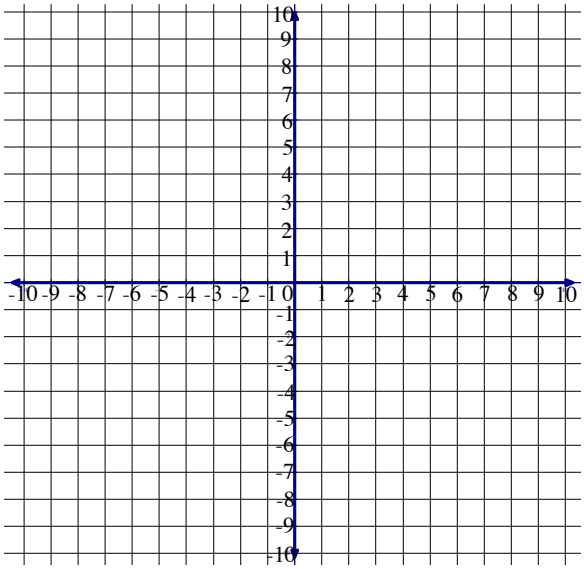
$(0.4,0)$



Note all relevant properties of f and sketch the graph (Label the maximum, minimum and inflection points)

9) $f(x)=\dfrac{10x^2}{x^2+12}$

$x-$ int $y-$ int v.asym. h.asym. rel.max. rel.min. inc. dec. inf .pts. conc.up conc.down



10) $f(x)=\dfrac{x^2+4}{x}$

$x-$ int $y-$ int v.asym. *o*.asym. rel.max. rel.min. inc. dec. inf .pts. conc.up conc.down

$y = x$