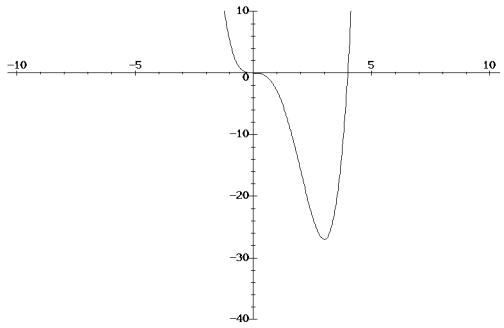
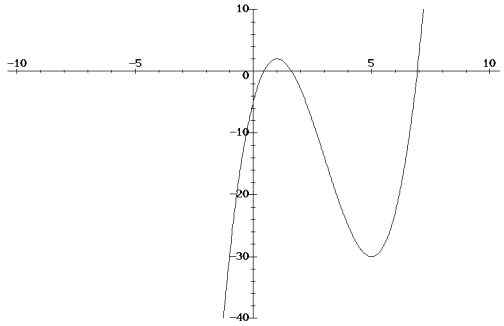
Answers to **Curve Sketching**: 5–12.

5.



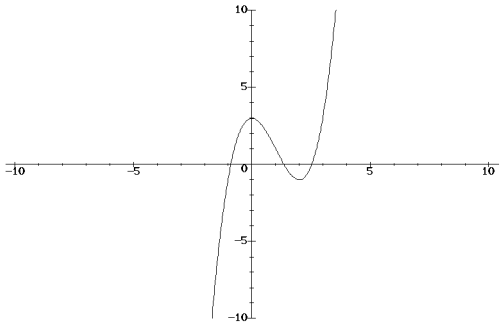
x-intercepts	$(0,0);(4,0)$
y-intercept	$(0,0)$
H.A.	none
V.A.	none
Increasing on	$(3,\infty)$
Decreasing on	$(-\infty,3)$
Concave up on	$(-\infty,0),(2,\infty)$
Concave down on	$(0,2)$
Rel. Max. at	none
Rel. Min. at	$(3,-27)$
Inflection pt. at	$(0,0);(2,-16)$

6.



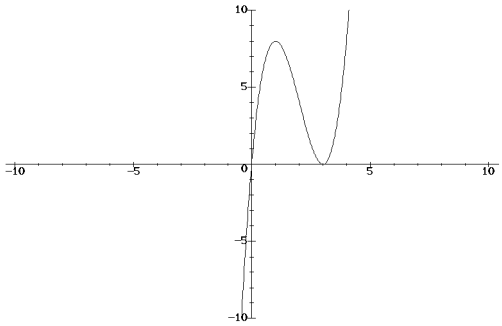
x-intercepts	irrational
y-intercept	$(0,-5)$
H.A.	none
V.A.	none
Increasing on	$(-\infty,1),(5,\infty)$
Decreasing on	$(1,5)$
Concave up on	$(3,\infty)$
Concave down on	$(-\infty,3)$
Rel. Max. at	$(1,2)$
Rel. Min. at	$(5,-30)$
Inflection pt. at	$(3,-14)$

7.



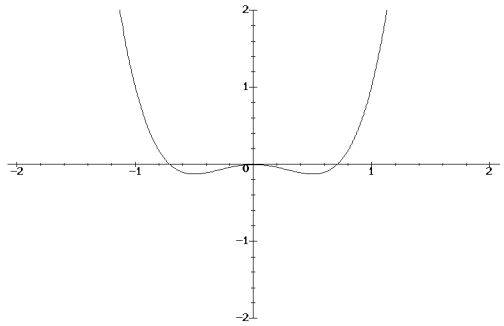
x-intercepts	irrational
y-intercept	$(0,3)$
H.A.	none
V.A.	none
Increasing on	$(-\infty,0),(2,\infty)$
Decreasing on	$(0,2)$
Concave up on	$(1,\infty)$
Concave down on	$(-\infty,1)$
Rel. Max. at	$(0,3)$
Rel. Min. at	$(2,-1)$
Inflection pt. at	$(1,1)$

8.



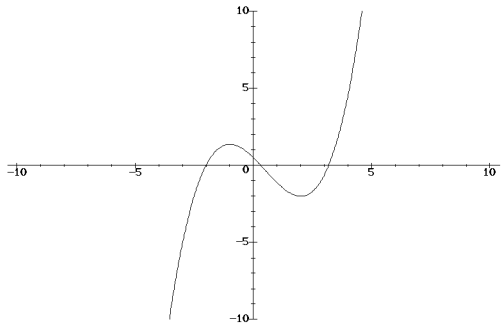
x-intercepts	$(0,0);(3,0)$
y-intercept	$(0,0)$
H.A.	none
V.A.	none
Increasing on	$(-\infty,1),(3,\infty)$
Decreasing on	$(1,3)$
Concave up on	$(2,\infty)$
Concave down on	$(-\infty,2)$
Rel. Max. at	$(1,8)$
Rel. Min. at	$(3,0)$
Inflection pt. at	$(2,4)$

9.



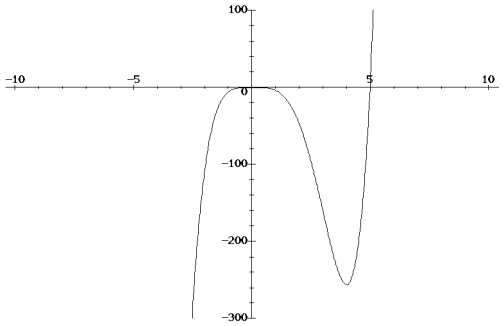
x-intercepts	$(0,0);(-\frac{1}{\sqrt{2}},0);(\frac{1}{\sqrt{2}},0)$
y-intercept	$(0,0)$
H.A.	none
V.A.	none
Increasing on	$(-\frac{1}{2},0),(\frac{1}{2},\infty)$
Decreasing on	$(-\infty,-\frac{1}{2}),(0,\frac{1}{2})$
Concave up on	$(-\infty,-\frac{1}{\sqrt{12}}),(\frac{1}{\sqrt{12}},\infty)$
Concave down on	$(-\frac{1}{\sqrt{12}},\frac{1}{\sqrt{12}})$
Rel. Max. at	$(0,0)$
Rel. Min. at	$(-\frac{1}{2},-\frac{1}{8});(\frac{1}{2},-\frac{1}{8})$
Inflection pt. at	$(-\frac{1}{\sqrt{12}},-\frac{5}{72});(\frac{1}{\sqrt{12}},-\frac{5}{72})$

10.



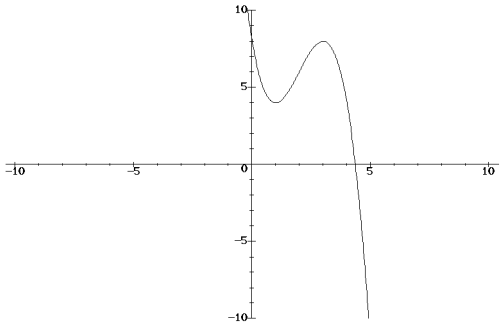
x-intercepts	$(-2,0);(\frac{7\pm\sqrt{33}}{4},0)$
y-intercept	$(0,\frac{1}{2})$
H.A.	none
V.A.	none
Increasing on	$(-\infty,-1),(2,\infty)$
Decreasing on	$(-1,2)$
Concave up on	$(\frac{1}{2},\infty)$
Concave down on	$(-\infty,\frac{1}{2})$
Rel. Max. at	$(-1,\frac{11}{8})$
Rel. Min. at	$(2,-2)$
Inflection pt. at	$(\frac{1}{2},-\frac{5}{16})$

11.



x-intercepts	$(0,0);(5,0)$
y-intercept	$(0,0)$
H.A.	none
V.A.	none
Increasing on	$(-\infty,0),(4,\infty)$
Decreasing on	$(0,4)$
Concave up on	$(3,\infty)$
Concave down on	$(-\infty,3)$
Rel. Max. at	$(0,0)$
Rel. Min. at	$(4,-256)$
Inflection pt. at	$(3,-162)$

12.



x-intercepts	irrational
y-intercept	$(0,8)$
H.A.	none
V.A.	none
Increasing on	$(1,3)$
Decreasing on	$(-\infty,1),(3,\infty)$
Concave up on	$(-\infty,2)$
Concave down on	$(2,\infty)$
Rel. Max. at	$(3,8)$
Rel. Min. at	$(1,4)$
Inflection pt. at	$(2,6)$