

Graphs of Derivatives

1. a) $(-\infty, 2)$

b) $(2, \infty)$

c) none

d) $(-\infty, \infty)$

e) rel max at $x=2$

f) none

2. a) $(-\infty, -1) \cup (3, \infty)$

b) $(-1, 3)$

c) $(1, \infty)$

d) $(-\infty, 1)$

e) rel max at $x=-1$

rel min at $x=3$

f) poi at $x=1$

3. a) $(-4, -2)$

b) $(-\infty, -4) \cup (-2, \infty)$

c) $(-\infty, -3)$

d) $(-3, \infty)$

e) rel min at $x=-4$

rel max at $x=-2$

f) poi at $x=-3$

4. a) $(-4, 0) \cup (2, \infty)$

b) $(-\infty, -4) \cup (0, 2)$

c) $(-\infty, -2) \cup (1, \infty)$

d) $(-2, 1)$

e) rel min at $x=-4$ & $x=2$

rel max at $x=0$

f) poi at $x=-2$ & $x=1$

5. a) $(-\infty, 0) \cup (2, 4)$
b) $(0, 2) \cup (4, \infty)$
c) $(1, 3)$
d) $(-\infty, 1) \cup (3, \infty)$
e) rel max at $x=0$ & $x=4$
rel min at $x=2$
f) poi at $x=1$ & $x=3$

6. a) none
b) $(-\infty, 2) \cup (2, \infty)$
c) $(2, \infty)$
d) $(-\infty, 2)$
e) none
f) possible poi

7. a) $(-5, 1) \cup (5, \infty)$
b) $(-\infty, -5) \cup (1, 5)$
c) $(-\infty, -2) \cup (3, \infty)$
d) $(-2, 3)$
e) rel min at $x=-5$ & $x=5$
rel max at $x=1$
f) poi at $x=-2$ & $x=3$

8. a) $(-\infty, -4) \cup (-2, 2)$
b) $(-4, -2) \cup [2, \infty)$
c) $(-3, 0)$
d) $(-\infty, -3) \cup (0, 2) \cup [2, \infty)$
e) rel max at $x=-4$
rel min at $x=-2$
f) poi at $x=-3$ & $x=0$