Section 3.3 answers

1a) Find the open interval(s) where the graph of the function is concave up $(-2, \infty)$
1b) Find the open interval(s) where the graph of the function is concave down. $(-\infty, -2)$
1c) Find all inflection points $(-2, 14)$

3a) Find the open interval(s) where the graph of the function is concave up $(-\infty, 1)$
3b) Find the open interval(s) where the graph of the function is concave down. $(1, \infty)$
3c) Find all inflection points $(1, 14)$

5a) Find the open interval(s) where the graph of the function is concave up $(-4, 2)$
5b) Find the open interval(s) where the graph of the function is concave down. $(-\infty, -4) \cup (2, \infty)$
5c) Find all inflection points $(-4, 384) \; and \; (2, 72)$

7a) Find the open interval(s) where the graph of the function is concave up $(-\infty, -1) \cup (1, \infty)$
7b) Find the open interval(s) where the graph of the function is concave down. $(-1, 1)$
7c) Find all inflection points $(-1, -7) \; and \; (1, -7)$

9a) Find the open interval(s) where the graph of the function is concave up $(-\infty, \infty)$
9b) Find the open interval(s) where the graph of the function is concave down. none
9c) Find all inflection points none

11a) Find the open interval(s) where the graph of the function is concave up $(4, \infty)$
11b) Find the open interval(s) where the graph of the function is concave down. $(-\infty, 4)$
11c) Find all inflection points $none, as \; x = 4 \; is \; not \; in \; the \; domain \; of \; the \; function \; graphed$

13a) Find the open interval(s) where the graph of the function is concave up $(-5, 0) \cup (5, \infty)$
13b) Find the open interval(s) where the graph of the function is concave down. $(-\infty, -5) \cup (0, 5)$
13c) Find all inflection points $(0, 0)$

15a) Find the open interval(s) where the graph of the function is concave up $(1, \infty)$
15b) Find the open interval(s) where the graph of the function is concave down. $(-\infty, 1)$
15c) Find all inflection points $(1, 3)$

17a) Find the open interval(s) where the graph of the function is concave up $(-\infty, -1)$
17b) Find the open interval(s) where the graph of the function is concave down. $(-1, \infty)$
17c) Find all inflection points $(-1, 3)$

19a) Find the open interval(s) where the graph of the function is concave up $(-\infty, -1) \cup (1, \infty)$
19b) Find the open interval(s) where the graph of the function is concave down. $(-1, 1)$
19c) Find all inflection points $(-1, -1) \; and \; (1, -1)$

21a) Find the open interval(s) where the graph of the function is concave up $(-2, \infty)$
21b) Find the open interval(s) where the graph of the function is concave down. $(-\infty, -2)$
21c) Find all inflection points $\left(-2, \frac{-4}{e^2}\right)$

23a) Find the open interval(s) where the graph of the function is concave up $(5, \infty)$
23b) Find the open interval(s) where the graph of the function is concave down. $(-\infty, 5)$
23c) Find all inflection points $none, as \; x = 5 \; is \; not \; in \; the \; domain \; of \; the \; function$