

Section 4.1 answers

1) There is an absolute maximum of  $y = 7$ , which occurs when  $x = 4$ .

There is an absolute minimum of  $y = 3$ , which occurs when  $x = 2$ .

3) There is an absolute maximum of  $y = 1$ , which occurs when  $x = 3$ .

There is an absolute minimum of  $y = -8$ , which occurs when  $x = 0$ .

5) There is an absolute maximum of  $y = 6$ , which occurs when  $x = 0$ .

There is an absolute minimum of  $y = -10$ , which occurs when  $x = -2$  and  $x = 2$ .

7) There is an absolute maximum of  $y = 1$ , which occurs when  $x = 5$ .

There is an absolute minimum of  $y = -8$ , which occurs when  $x = 0$  and  $x = 3$ .

9) There is an absolute maximum of  $y = 3$ , which occurs when  $x = -1$ .

There is an absolute minimum of  $y = -6$ , which occurs when  $x = 2$ .

11) absolute max  $y = 59$ , when  $x = -5$

absolute min  $y = -5$ , when  $x = 3$

13) absolute max  $y = 16$ , when  $x = -2$

absolute min  $y = 0$ , when  $x = 0$

15) absolute max  $y = 52$ , when  $x = 5$

absolute min  $y = -2$ , when  $x = -1$  and  $x = 2$

17) absolute max  $y = 135$ , when  $x = 3$

absolute min  $y = -1$ , when  $x = 1$

19) absolute max  $y = -1728$ , when  $x = \pm 2$

absolute min  $y = -4096$ , when  $x = 0$

21) absolute min  $y = \sqrt[5]{-3}$ , when  $x = -3$

absolute max  $y = \sqrt[5]{2}$ , when  $x = 2$

23) Abs max of  $y = 6e^3$  when  $x = 3$

Abs min of  $y = 0$  when  $x = 0$

25) Abs max  $y = e^4$  when  $x = -2$

Abs min  $y = 1$  when  $x = 0$

27) Abs max  $y = e$  when  $x = 1$

Abs min  $y = 0$  when  $x = 0$