Additional Practice – Local min or max with piecewise functions

Identify the critical points and determine the local extreme values.

1. $y=x^{\frac{2}{3}}(x+2)$

b) $y=\left\{\begin{array}{c} 3-x, x<0 \\3+2x-x^{2}, x\geq 0\end{array}\right.$

c) $y=x^{\frac{2}{3}}(x^{2}-4)$

d) $y=\left\{\begin{array}{c} -x^{2}-2x+4, x\leq 1 \\-x^{2}+6x-4, x>1\end{array}\right.$

e) $y=x\sqrt{4-x^{2}}$

f) $y=\left\{\begin{array}{c}4-2x, x\leq 1 \\x+1, x>1\end{array}\right.$

g) $y=x^{2}\sqrt{3-x}$

h) $y=\left\{\begin{array}{c}-\frac{1}{4}x^{2}-\frac{1}{2}x+\frac{15}{4}, x\leq 1 \\x^{3}-6x^{2}+8x, x>1\end{array}\right.$