

**Problem 1** Find the critical numbers of the following functions.

1.  $f(x) = 4 + \frac{1}{3}x - \frac{1}{2}x^2$ .

2.  $h(x) = |x - 2| + |x - 1|$ .

3.  $g(t) = |2t - 1| + |2t + 1|$ .

4.  $g(y) = \frac{y - 1}{y^2 - y + 1}$ .

5.  $h(p) = \frac{p - 1}{p^2 + 4}$ .

6.  $g(x) = \sqrt[3]{4 - x^2}$ .

7.  $h(t) = t^{4/5}(t - 4)^2$ .

8.  $g(\theta) = \theta - \tan \theta$ .

9.  $f(\theta) = 2 \cos \theta + \sin^2 \theta$ .