1. \(-\frac{40}{11}\)

2. (a) \(-\infty\) (b) 3 (c) 1 (d) 1 (e) -1

3. Ask your instructor.

4. (a) 53 (b) -7

5. (Note that this problem has been changed from the original.)
   (a) \(c^2 - 16\) (b) \(4c - 11\) (c) 5 and -1

6. Since \(f(x)\) is continuous, \(f(-1) = -3\), and \(f(0) = 1\), there is a root between -1 and 0 by the Intermediate Value Theorem.

7. Ask your instructor.

8. slope = \(f'(1) = 2\)
   tangent line: \(y = 2x - 2\)

9. -24