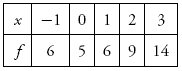
**Part A - The use of a calculator is not allowed.**

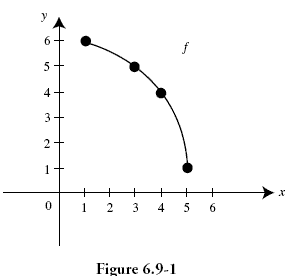
Find the derivative of each of the following functions.

1. y = 6x5 – x + 10
2. http://01.edu-cdn.com/files/static/mcgrawhillprof/9780071624756/PRACTICE_PROBLEMS_AND_CUMULATIVE_REVIEW_PROBLEMS_01.GIF
3. http://02.edu-cdn.com/files/static/mcgrawhillprof/9780071624756/PRACTICE_PROBLEMS_AND_CUMULATIVE_REVIEW_PROBLEMS_02.GIF
4. http://03.edu-cdn.com/files/static/mcgrawhillprof/9780071624756/PRACTICE_PROBLEMS_AND_CUMULATIVE_REVIEW_PROBLEMS_03.GIF
5. f (x ) = (3x – 2)5(x2 – 1)
6. http://04.edu-cdn.com/files/static/mcgrawhillprof/9780071624756/PRACTICE_PROBLEMS_AND_CUMULATIVE_REVIEW_PROBLEMS_04.GIF
7. y = 10 cot(2x – 1)
8. y = 3x sec(3x)
9. y = 10 cos[sin(x2 – 4)]
10. y = 8 cos–1(2x )
11. y = 3e5 +4xex
12. y = ln(x2 +3)

**Part B—Calculators are allowed.**

1. Find http://00.edu-cdn.com/files/static/mcgrawhillprof/9780071624756/PRACTICE_PROBLEMS_AND_CUMULATIVE_REVIEW_PROBLEMS_05.GIF, if x2 + y3 =10 – 5xy.
2. The graph of a function f on [1, 5] is shown in Figure 6.9–1. Find the approximate value of f '(4).
3. Let f be a continuous and differentiable function. Selected values of f are shown below. Find the approximate value of f ' at x =2.

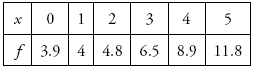




1. If f (x) = x5 + 3x – 8, find ( f –1)'(–8).
2. Write an equation of the tangent to the curve y = ln x at x = e.
3. If y = 2x sin x, find http://03.edu-cdn.com/files/static/mcgrawhillprof/9780071624756/PRACTICE_PROBLEMS_AND_CUMULATIVE_REVIEW_PROBLEMS_08.GIF at x = http://04.edu-cdn.com/files/static/mcgrawhillprof/9780071624756/PRACTICE_PROBLEMS_AND_CUMULATIVE_REVIEW_PROBLEMS_09.GIF.
4. If the function f (x)=(x – 1)2/3 + 2, find all points where f is not differentiable.
5. Write an equation of the normal line to the curve x cos y = 1 at (2, http://00.edu-cdn.com/files/static/mcgrawhillprof/9780071624756/PRACTICE_PROBLEMS_AND_CUMULATIVE_REVIEW_PROBLEMS_10.GIF).
6. http://01.edu-cdn.com/files/static/mcgrawhillprof/9780071624756/PRACTICE_PROBLEMS_AND_CUMULATIVE_REVIEW_PROBLEMS_11.GIF
7. http://02.edu-cdn.com/files/static/mcgrawhillprof/9780071624756/PRACTICE_PROBLEMS_AND_CUMULATIVE_REVIEW_PROBLEMS_12.GIF
8. http://03.edu-cdn.com/files/static/mcgrawhillprof/9780071624756/PRACTICE_PROBLEMS_AND_CUMULATIVE_REVIEW_PROBLEMS_13.GIF
9. http://04.edu-cdn.com/files/static/mcgrawhillprof/9780071624756/PRACTICE_PROBLEMS_AND_CUMULATIVE_REVIEW_PROBLEMS_14.GIF
10. http://00.edu-cdn.com/files/static/mcgrawhillprof/9780071624756/PRACTICE_PROBLEMS_AND_CUMULATIVE_REVIEW_PROBLEMS_15.GIF

### **(Calculator) indicates that calculators are permitted.**

1. Find http://01.edu-cdn.com/files/static/mcgrawhillprof/9780071624756/PRACTICE_PROBLEMS_AND_CUMULATIVE_REVIEW_PROBLEMS_16.GIF.
2. If f (x)= cos2(π – x ), find f '(0).
3. Find http://02.edu-cdn.com/files/static/mcgrawhillprof/9780071624756/PRACTICE_PROBLEMS_AND_CUMULATIVE_REVIEW_PROBLEMS_17.GIF.
4. (Calculator) Let f be a continuous and differentiable function. Selected values of f are shown below. Find the approximate value of f ' at x = 2.



1. (Calculator) If http://04.edu-cdn.com/files/static/mcgrawhillprof/9780071624756/PRACTICE_PROBLEMS_AND_CUMULATIVE_REVIEW_PROBLEMS_19.GIF determine if f (x) is continuous at (x = 3). Explain why or why not?