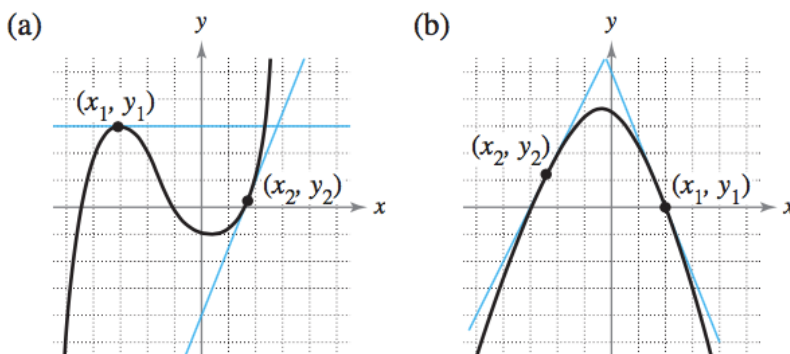


2A-2 Exercises

Derivatives and The Tangent Line Problem

1. Estimate the slope of the graph at the points x_1, y_1 and x_2, y_2



Find the slope of the tangent line to the graph of the function at the given point.

5. $f(x) = 3 - 5x$, $(-1, 8)$

7. $g(x) = x^2 - 9$, $(2, -5)$

Find an equation of the line that is tangent to the graph of f and parallel to the given line.

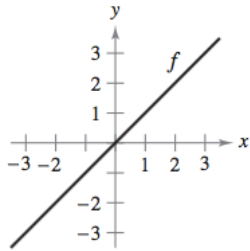
33. $\frac{\text{Function}}{f(x) = x^2}$

$\frac{\text{Line}}{2x - y + 1 = 0}$

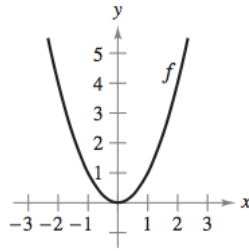
In 39-42, the graph of $f(x)$ is given. Select the graph of $f'(x)$

In Exercises 39–42, the graph of f is given. Select the graph of f' .

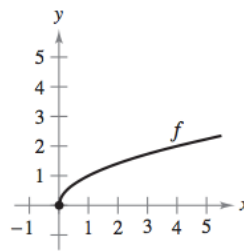
39.



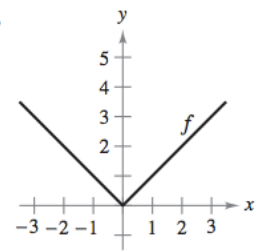
40.



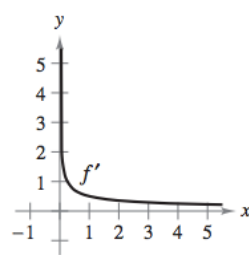
41.



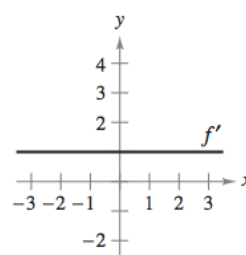
42.



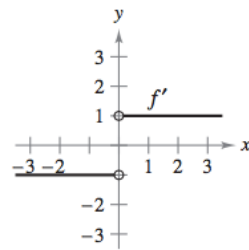
(a)



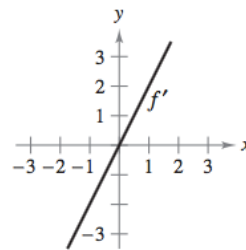
(b)



(c)

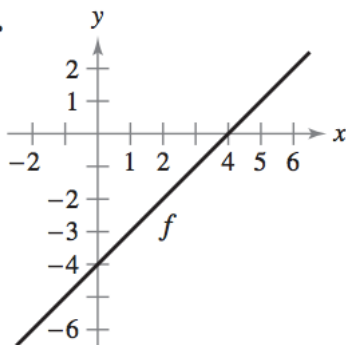


(d)

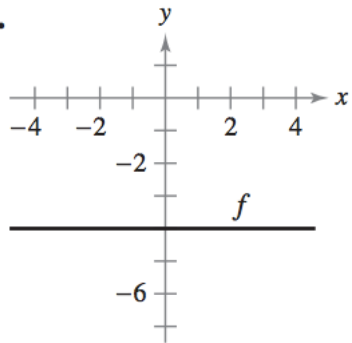


In Exercises 45-50, sketch the graph of f' . Explain how you found your answer.

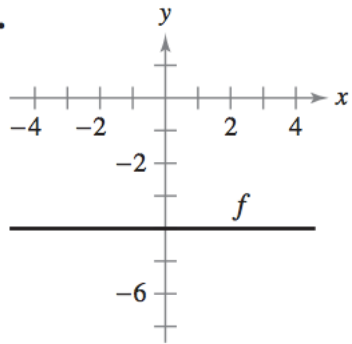
45.



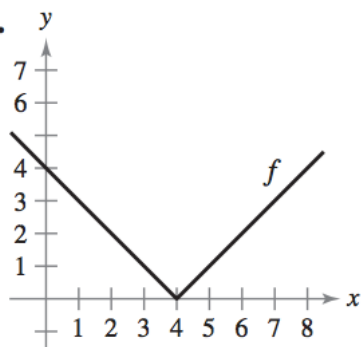
46.



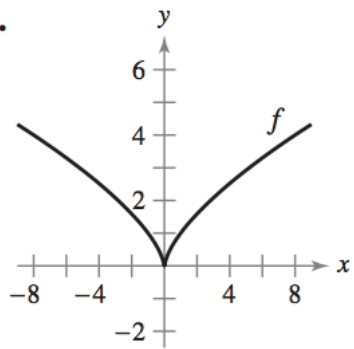
46.



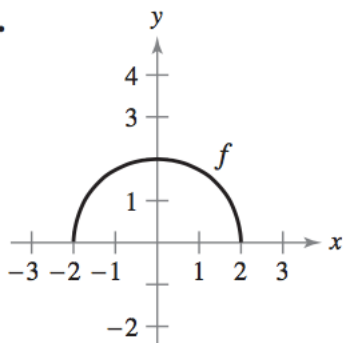
48.



49.

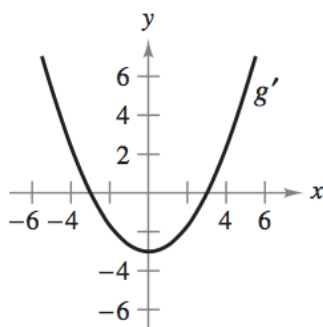


50.



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64. The figure shows the graph of g' .



- (a) $g'(0) = \blacksquare$ (b) $g'(3) = \blacksquare$
- (c) What can you conclude about the graph of g knowing that $g'(1) = -\frac{8}{3}$?
- (d) What can you conclude about the graph of g knowing that $g'(-4) = \frac{7}{3}$?
- (e) Is $g(6) - g(4)$ positive or negative? Explain.
- (f) Is it possible to find $g(2)$ from the graph? Explain.