below

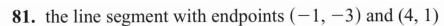
 $\vee$  write the function in the form y = f(u) and In Exercises u = g(x). Then find dy/dx as a function of x.

**9.** 
$$y = (2x + 1)^5$$

**10.** 
$$y = (4 - 3x)^9$$

**14.** 
$$y = \left(\frac{x}{5} + \frac{1}{5x}\right)^5$$

In Exercises find a parametrization for the curve.



**82.** the line segment with endpoints (-1, 3) and (3, -2)

**84.** the left half of the parabola  $y = x^2 + 2x$ 

Use implicit differentiation to find dy/dx in Exercises below.

[Ex 3.6, p211)

**19.** 
$$x^2y + xy^2 = 6$$

**20.** 
$$x^3 + y^3 = 18xy$$

**25.** 
$$y^2 = \frac{x-1}{x+1}$$

The radius r and height h of a right circular cone are related to the cone's volume V by the equation  $V = (1/3)\pi r^2 h$ .

**a.** How is dV/dt related to dh/dt if r is constant?

**b.** How is dV/dt related to dr/dt if h is constant?

**c.** How is dV/dt related to dr/dt and dh/dt if neither r nor h is constant?