

**116** 1.  $f'(x) = -3 \sin(x) + 2 \cos(x)$ .

2.  $2f'(x) + 3f(x) = 2(-3 \sin(x) + 2 \cos(x)) + 3(3 \cos(x) + 2 \sin(x))$   
 $= -6 \sin(x) + 4 \cos(x) + 9 \cos(x) + 6 \sin(x)$   
 $= 13 \cos(x)$ .