

Find $F'(x)$ when:

1. $F(x) = \int_0^x 3 dt$

2. $F(x) = \int_1^x 3 dt$

3. $F(x) = \int_0^x 2t dt$

4. $F(x) = \int_1^x 2t dt$

5. $F(x) = \int_0^x (2-2t) dt$

6. $F(x) = \int_1^x (2-2t) dt$

7. $F(x) = \int_0^x \sin t dt$

8. $F(x) = \int_1^x \sin t dt$

9. $F(x) = \int_0^{3x} 2t dt$

10. $F(x) = \int_0^{\sin x} 2t dt$

11. $F(x) = \int_a^x f(t) dt$

12. $F(x) = \int_a^{g(x)} f(t) dt$