

Take-home Quiz 6 Calculus 1 Due 12/9/2016

Each problem is worth 1 point. Clear and complete justification is required for full credit.

1. Let $f(x) = \int_0^x \sin t \, dt$. What is $f'(x)$?

2. Let $f(x) = \int_{\pi/2}^x \sin t \, dt$. What is $f'(x)$?

3. Let $f(x) = \int_0^x \sin(t^2) \, dt$. What is $f'(x)$?

4. Let $f(x) = \int_x^0 \sin(t^2) \, dt$. What is $f'(x)$?

5. Let $f(x) = \int_x^{2x} \sin(t^2) \, dt$. What is $f'(x)$?

6. Let $f(x) = \int_0^x \sqrt{1+r^3} dr$. What is $f'(x)$?

7. Let $f(x) = \int_{-2}^x \sqrt{1+r^3} dr$. What is $f'(x)$?

8. Let $f(x) = \int_x^0 \sqrt{1+r^3} dr$. What is $f'(x)$?

9. Let $f(x) = \int_0^{2x} \sqrt{1+r^3} dr$. What is $f'(x)$?

10. Let $f(x) = \int_0^{x^2} \sqrt{1+r^3} dr$. What is $f'(x)$?