Student ID:

Student Name:

Serial Number:

Math 102, Section 6
Summer 2016, Term 153

Quiz 1
Version A

Instructions: Show Your Work!

1. (3 pts) Find the limit, if exists

$$\lim_{n\to\infty} \frac{2}{n} \sum_{i=1}^{n} \frac{1}{1+\left(\frac{i}{n}\right)^2}$$

2. (3 pts) Find the value of the integral

$$\int_{-4}^{0} \left(2x + \sqrt{16-x^2}\right) dx.$$

(Hint: you may interpret the integral in terms of areas)

3. (4 pts) If

$$G(x) = \int_2^x g(t)dt \quad \text{and} \quad g(t) = \int_2^{2\sqrt{t}} \frac{\sqrt{9+u^2}}{1+2u^2} du.$$

Find $G''(4)$.

Student ID:

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Math 102, Section 8
Summer 2016, Term 153

Quiz 1
Version B

Instructions: Show Your Work!

1. (3 pts) Find the limit, if exists

$$\lim_{n\to\infty} \frac{1}{2n} \sum_{i=1}^{n} \left(3 - \frac{2i}{n}\right)^2$$

2. (3 pts) Find the value of the integral

$$\int_{-3}^{0} \left(2x + \sqrt{9 - x^2}\right) dx.$$

(Hint: you may interpret the integral in terms of areas)

3. (4 pts) If

$$G(x) = \int_{\sin(x)}^{\cos(3x)} \frac{1}{\sqrt{1+4t^2}} dt,$$

find $G'\left(\frac{\pi}{2}\right)$.