

# MTH 132 - Quiz 5

Due 23 June at the beginning of class

Name:

Show all your work to receive full credit on the following problems.

1. (5 points) Find the average value of  $f(x) = \sin^2 x + \cos^2 x + x$  on the interval  $[0, \pi]$ .

2. (8 points) Find the following antiderivatives:

(a)

$$\int x^3 \sqrt{x^2 - 1} dx$$

(b)

$$\int \cos^2(\sin x) \cos x dx$$

3. (7 points) Find the area between the curves  $y = 2x - 1$  and  $y = 7 - x^2$ .