MATH 141: QUIZ 8 SECTIONS 4.8-5.2

ANN CLIFTON
UNIVERSITY OF SOUTH CAROLINA

Name: Sols

No phone or calculator. You must show all work to receive full credit. Be sure to make reasonable simplifications.

1. **(5 points)** Find the indefinite integral:

$$\int \left(\cos x + x^2 - 3x + \frac{2}{\sqrt{x}}\right) dx$$

$$= \sin x + \frac{x^3}{3} - \frac{3x^2}{2} + 4x^{1/2} + C$$

Date: March 21, 2018.

2. **(5 points)**

(a) Write the following sum in closed form (using sigma notation):

$$\frac{1}{2}+\frac{1}{4}+\frac{1}{8}+\frac{1}{16}$$

$$= \sum_{k=1}^{4} \frac{1}{2^k}$$

(b) Write the following in open form (without the sigma) and evaluate:

$$\sum_{k=1}^{3}(-1)^k k^2$$

$$= (-1)(1)^2+(-1)^2(2)^2+(-1)^3(3)^2$$

$$= -1+4-9$$

$$= -6$$