

Math 204, [A01]

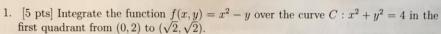
Quiz 1 (version A), 05.21.2020

Instruction: Dr. HER WHIN

Student First and Last Name:	Ryun Woodward
Student ID	V00857268

- · OPTIONAL: Print this .pdf. If you do not have easy access to a printer, that is eik but it is easier for us instructors to have a consistent formut when marking so if you can print it out please do so. There are 3 questions and 4 pages (including this page).
- · For each problem, write out a full solution. Solutions should be clear, complete, and justified. Final answers without supporting work will be graded as zero.
- · This exam is individual. Communicating with anybody else during the test is a strict violation of Academic Integrity. Posting the test on the inverset is a violation not just of academic integrity but of Canadian copyright law.
- . This exam is open book. You may consult your notes, the book, the videos, etc. but you must still write full solutions. We consider "googding" the problems to be unethical, and have written the problems aiming to minimize the usefulness of this.
- If you need help during the exam, I will be available live at ibrahims@nvic.ca
- The normal time for test is 30 minutes for writing and 15 minutes for scanning, and uploading. If you have a time multiplier through CAL then the upload link will be available for that longer time period. Please do not leave this to the last few minutes to scan in case of a technological issue. Use your phone or other scanning device. Apps such as Adobe Scan can make a clean pdf file. Make sure all your pages are oriented correctly and in the right order. It's ok to insert your own pages if needed.
- . If something goes wrong with scanning and uploading let me know ASAP. Take a clean photo of each page and email them to ibrahims@uvic.ca by the end of the exam.
- Please keep your exam for at least two weeks in case we need you to rescan.
- Please read and sign the Confdentiality Agreement ¹ before solving the quiz

Confidentiality Agreement. I did not communicate with any other person I followed all exam instructions SIGANUTURE (MANDATORY) The WWW



$$\frac{2(1)}{3(2)} = (2 \cos t, 2 \sin t)$$

$$\frac{2(1)}{3(2)} = -2 \sin t, 2 \cos t$$

$$|\vec{v}(t)| = \sqrt{(-2 \sin t)^2 + (2 \cos t)^2} = \sqrt{4 \sin^2 t + 4 \cos^2 t}$$

$$= \sqrt{4 (\sin^2 t + \cos^2 t)} = \sqrt{4} = 2$$

$$\int_0^{\pi/4} f(\vec{r}(t)) |\vec{v}(t)| dt = 2 \int_0^{\pi/4} (2 \cos t)^2 - 2 \sin t) dt$$

$$= 2 \int_0^{\pi/4} 4 \left(\frac{1 + \cos(2t)}{2} \right) - 2 \sin t dt$$

$$= 2 \int_0^{\pi/4} 2 + 2 \cos(2t) - 2 \sin t dt$$

$$= 4 \int_0^{\pi/4} 4 + 2 \cos(2t) + 2 \cos t$$

$$= 4 \int_0^{\pi/4} 4 + 2 \cos(2t) + 2 \cos t$$

$$= 4 \int_0^{\pi/4} 4 + 2 \cos(2t) + 2 \cos t$$

$$= 4 \int_0^{\pi/4} 4 + 2 \cos(2t) + 2 \cos t$$

$$= 4 \int_0^{\pi/4} 4 + 2 \cos(2t) + 2 \cos t$$

$$= 4 \int_0^{\pi/4} 4 + 2 \cos(2t) + 2 \cos t$$

$$= 4 \int_0^{\pi/4} 4 + 2 \cos(2t) + 2 \cos($$



2. [5 pts] Find the work done by the force $\vec{F} = xy\vec{i} + (y-x)\vec{j}$ over the straight line from (2,-1) to (3,-2). Is the work independent of the path between the two endpoints? Clearly explain why.

$$= \frac{1}{2} - \frac{1^{3}}{2} - \frac{1^{3}}{3} = \left[1 - \frac{1}{2} - \frac{1}{3} \right] = \frac{1}{6}$$

1) The work done is dependent on the puth Decuse the field is not conservable because

1. M M --- 1

Condets order assumption $5 \ge 3$ was rally $5 \ge 3$ oftenise stell 3. [5 pts] Find a potential function f for the field $\vec{F} = e^{y+4z}(5\vec{i} + 5z\vec{j} + 20x\vec{k})$. 1 30 = 200 445 DN = 2.4 = 1445 DP = 50.4445 DE = 50.04.45 -30N = 0 , 2N = 2 : 5 e 1+42 => f(+1/12) = \$5 e 1+47 dr = 5x e + 3(1/2) = 5x e + 1(4,2) => 5x. e = 5x e + 5(4,2) 0= s(4,7) => (0 dy = 0+ h(2) · flx, 4, t) = 5x21+42 + h(2) 0f = 20 x e ++ + 1/(1)=> 20 x e = 20 x e + 1/(2) 0=4(8) = 500/59 = 0+C 5 Poderdel Snotter is 1 f(=14/2) = 5x. e4+42 + C