Name! Solutions

## MAT 128 Quiz 1

1.  $\int \arcsin x \, dx$ 2.  $\int \sqrt{1 + x^2} \, dx$ 2.  $\int \sqrt{1 + x^2} \, dx$ 2.  $\int \sqrt{1 + x^2} \, dx$ 3.  $\int \sqrt{1 + x^2} \, dx$ 4.  $\int \sqrt{1 + x^2} \, dx$ 4.  $\int \sqrt{1 + x^2} \, dx$ 5.  $\int \sqrt{1 + x^2} \, dx$ 6.  $\int \sqrt{1 + x^2} \, dx$ 7.  $\int \sqrt{1 + x^2} \, dx$ 8.  $\int \sqrt{1 + x^2} \, dx$ 9.  $\int \sqrt{1 + x^2} \, dx$ 1.  $\int \arctan x \, dx$ 2.  $\int \sqrt{1 + x^2} \, dx$ 3.  $\int \sqrt{1 + x^2} \, dx$ 4.  $\int x \, dx$ 5.  $\int x \, dx$ 6.  $\int x \, dx$ 7.  $\int x \, dx$ 8.  $\int x \, dx$ 9.  $\int x \, dx$ 1.  $\int x \, dx$ 1.  $\int \arctan x \, dx$ 2.  $\int x \, dx$ 3.  $\int x \, dx$ 4.  $\int x \, dx$ 4.  $\int x \, dx$ 5.  $\int x \, dx$ 6.  $\int x \, dx$ 7.  $\int x \, dx$ 8.  $\int x \, dx$ 9.  $\int x \, dx$ 1.  $\int x \, dx$ 1.  $\int \arctan x \, dx$ 1.  $\int \arctan x \, dx$ 1.  $\int \arctan x \, dx$ 2.  $\int x \, dx$ 3.  $\int x \, dx$ 4.  $\int x \, dx$ 4.  $\int x \, dx$ 5.  $\int x \, dx$ 6.  $\int x \, dx$ 7.  $\int x \, dx$ 8.  $\int x \, dx$ 9.  $\int x \, dx$ 9.  $\int x \, dx$ 1.  $\int \arctan x \, dx$ 2.  $\int x \, dx$ 3.  $\int x \, dx$ 4.  $\int x \, dx$ 4.  $\int x \, dx$ 5.  $\int x \, dx$ 6.  $\int x \, dx$ 8.  $\int x \, dx$ 9.  $\int x \, dx$ 9.  $\int x \, dx$ 1.  $\int x \, dx$ 2.  $\int x \, dx$ 3.  $\int x \, dx$ 4.  $\int x \, dx$ 4.  $\int x \, dx$ 5.  $\int x \, dx$ 6.  $\int x \, dx$ 7.  $\int x \, dx$ 9.  $\int x \, dx$ 9.  $\int x \, dx$ 9.  $\int x \, dx$ 1.  $\int x \, dx$ 2.  $\int x \, dx$ 3.  $\int x \, dx$ 4.  $\int x \, dx$ 4.  $\int x \, dx$ 5.  $\int x \, dx$ 6.  $\int x \, dx$ 9.  $\int x \,$ = X QIZCSINX-SX QX = x ourcsinx + VI-x2 + C  $2. \int e^x \sin x dx$   $u = e^x du = e^x dx$ du=sinxdx V=-cosx = -e conx + Se conx dx = - e conx + é sinx - Sesinx => Sex 5111X = 1/-ex cosx + ex 5104] + C  $3. \int \tan x \sec^3 x \, dx$ let u=40 secx => du=tanxsecx dx => 5 er du = 1 secx + C

4. 
$$\int \sqrt{1-9x^2dx}$$
  
 $3x = \sin \theta \implies \sqrt{1-9x^2} = \cos \theta$   
 $3dx = \cos \theta d\theta \implies \int \int \cos \theta d\theta$   
 $= \frac{1}{3} \int \int \frac{1+\cos 2\theta}{2} = \int \frac{1+\cos 2\theta}{2} = \int \int \frac{1+\cos 2\theta}{2} = \int \frac{1$