

MATH 2300-016 QUIZ 2

Name: _____

1. $\int \frac{x-1}{x^2-6x+9} dx$

2. $\int \frac{3x+1}{x^2+4} dx$

3. $\int \frac{x^2}{(1-x^2)^{3/2}} dx$

4. $\int \ln(\sin x) \sin x \cos x \, dx$ (Make a substitution then integrate by parts.)

5. (a) Divide: $\frac{3x^2 + 2x + 1}{x + 2} = Ax + B + \frac{C}{x + 2}$.

(b) Complete the square: $x^2 + x + 1 = (x + A)^2 + B$.

(c) Find the exact value of $\sin(\pi/8)$ using the half-angle formula.