

East Los Angeles College
Department of Mathematics
Math 262
Test 2 Take Home (25 points)

1. $\lim_{x \rightarrow 0} \left(\frac{1}{\sin(x)} - \frac{1}{x} \right)$

2. $\lim_{x \rightarrow \infty} \left(1 + \frac{1}{x} \right)^{x^2}$

3. $\int \sin^2(2x) dx$

4. $\int \sin(x) \cos(3x) dx$

5. $\int e^{-x} \sin(2\pi x) dx$

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

7. $\int \frac{1}{x^2 \sqrt{x^2-4}} dx$

8. $\int \frac{3x-9}{(x+2)^2(x-1)} dx$

9. $\int \sqrt{x^2 - 4x + 3} dx$

10. $\int \frac{x^3 - 2x^2 + x - 5}{x^2 + x + 2} dx$