

University of Bahrain  
Department of Mathematics  
MATHS101: Calculus I  
Dr. Abdulla Eid



### Worksheet: Anti-derivative

Students' Name: \_\_\_\_\_

1. Find the following indefinite integrals:

$$1. \int \frac{3}{x^6} dx$$

$$2. \int (x^{9.9} - 7x^6 + 3x^{-4} + x^{-1} + \sqrt{2}) dx$$

$$3. \int (e^x + x^e + e^2) dx$$

$$4. \int \frac{x^4 + 10x}{x^2} dx$$

Dr. Abdulla Eid

$$5. \int \frac{d}{dx} \left( \frac{1}{\sqrt{1+x^3}} \right) dx$$

$$6. \int (7x^3 - 6x^2 - \ln 3) dx$$

$$7. \int e^{\ln(x^2+1)} dx$$

$$8. \int dx$$

$$9. \int 4 \sin x + 3 \cos x dx$$

$$10. \int \frac{7}{\sqrt{1-x^2}} dx$$

$$11. \int \frac{\sin 2x}{\sin x} dx$$

Dr. Abdulla Eid

$$12. \int \cos x(\tan x + \sec x) dx$$

$$13. \int (e^x - e^{-x})^2 dx$$

$$14. \int \cos^2 x dx$$

$$15. \int 6 - \cot^2 x dx$$

$$16. \int \frac{1}{9 + x^2} dx$$

Dr. Abdulla Eid