

AP Calculus BC
Unit 8 – Days 1 – 4 – QUIZ REVIEW

Name: _____

Directions: Match the problem in Column 1 with the solution in Column 2.

Column 1 (Problems)	Column 2 (Answers)
1. $\frac{d}{dx} [\arcsin(36x)]$	a. $7\arcsin\left(\frac{x-2}{3}\right) + C$
2. $\int (\tan x) \ln(\cos x) dx$	b. $\sqrt{2} \arctan\left(\frac{x}{\sqrt{2}}\right) + C$
3. $\int x^2(x^3 + 5)^6 dx$	c. $\frac{1}{3} \arctan\left(\frac{\sin x}{3}\right) + C$
4. $\int \frac{2}{x^2+2} dx$	d. $\frac{1}{ x \sqrt{\frac{1}{4}x^2-1}}$
5. $\int \frac{e^x dx}{(e^x+2)^2}$	e. $3x - 9 \arctan\left(\frac{x}{3}\right) + C$
6. $\frac{d}{dx} \left[\operatorname{arcsec}\left(\frac{x}{2}\right) \right]$	f. $\frac{16x-4}{ 4x-1 }$
7. $\int x\sqrt{1-x} dx$	g. $\frac{6}{\sqrt{1-36x^2}}$
8. $\int \frac{7}{\sqrt{5+4x-x^2}} dx$	h. $\sqrt{2x+1} + C$
9. $\int \frac{3x^2}{x^2+9} dx$	i. $-2\sqrt{9-x^2} - 3 \arcsin\left(\frac{x}{3}\right) + C$
10. $\frac{d}{dx} [4^x]$	j. $\frac{1}{2} \operatorname{arcsec} 2x + C$
11. $\int \frac{5x}{\sqrt{x+2}} dx$	k. $4^x \ln 4$
12. $\int \frac{\cos x}{9 + \sin^2 x} dx$	l. $-\frac{1}{2} [\ln(\cos x)]^2 + C$
13. $\int \frac{2x-3}{\sqrt{9-x^2}} dx$	m. $\frac{1}{2\sqrt{x}(1+x)}$
14. $\frac{d}{dx} [4x-1]$	n. $-5 \csc(5x) \cot(5x)$
15. $\int \frac{1}{\sqrt{2x+1}} dx$	o. $\frac{2}{5}(1-x)^{\frac{5}{2}} - \frac{2}{3}(1-x)^{\frac{3}{2}} + C$
16. $\int \frac{1}{2x\sqrt{4x^2-1}} dx$	p. $\frac{1}{21}(x^3+5)^7 + C$
17. $\frac{d}{dx} [\arctan\sqrt{x}]$	q. $\frac{1}{2} \ln(x^2+9) + \arctan\left(\frac{x}{3}\right) + C$
18. $\frac{d}{dx} [\csc(5x)]$	r. $\frac{10}{3}(x+2)^{3/2} - 20\sqrt{x+2} + C$
19. $\int \sin^3 3x \cos 3x dx$	s. $\frac{-1}{e^x+2} + C$
20. $\int \frac{x+3}{x^2+9} dx$	t. $\frac{1}{12} \sin^4 3x + C$