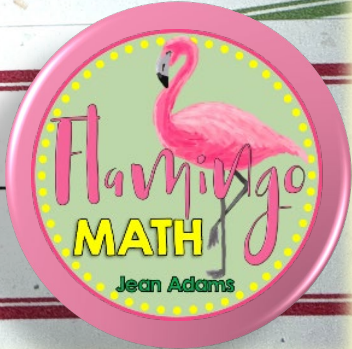


AP® Calculus

Antidifferentiation

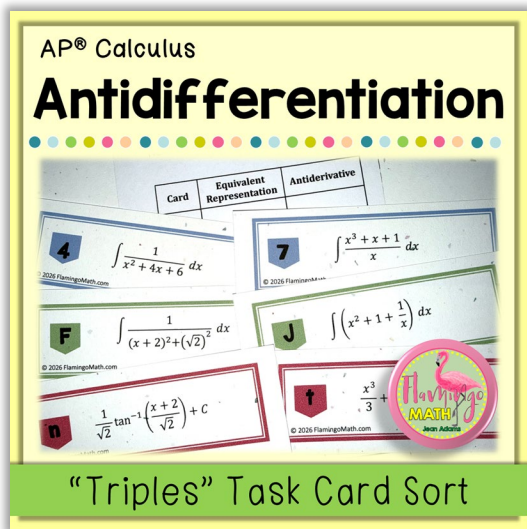


Card	Equivalent Representation	Antiderivative
4	$\int \frac{1}{x^2 + 4x + 6} dx$	
7	$\int \frac{x^3 + x + 1}{x} dx$	
F	$\int \frac{1}{(x+2)^2 + (\sqrt{2})^2} dx$	
J	$\int \left(x^2 + 1 + \frac{1}{x} \right) dx$	
n	$\frac{1}{\sqrt{2}} \tan^{-1} \left(\frac{x+2}{\sqrt{2}} \right) + C$	
t	$\frac{x^3}{3} +$	



“Triples” Task Card Sort

Antidifferentiation Triples Matching Activity



KEY CONCEPTS/TOPICS:

1. Match two equivalent integral expressions to the antiderivative expression.

GENERAL DIRECTIONS:

Students work cooperatively to match three cards that represent an integral, an equivalent statement and the antiderivative. There are 10 matching sets in the activity.

Product Overview

Antidifferentiation Triples Matching Activity

This is a task card activity that is designed to help your AP Calculus students review key concepts related to the techniques of integration and writing equivalent statements prior to finding the antiderivative. There are 10 questions in the activity, with 30 total cards in the set. Students are provided a recording sheet to support their work. There is also a blackline print version if you need that option and a student recording page to support accountability.

Product Pages

1 $\int (x^2 + 1)^2 dx$

© 2026 FlamingoMath.com

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

© 2026 FlamingoMath.com

3 $\int \frac{x^4 - 1}{x - 1} dx$

© 2026 FlamingoMath.com

4 $\int \frac{1}{x^2 + 4x + 6} dx$

© 2026 FlamingoMath.com

5 $\int x(2x + 1)^2 dx$

© 2026 FlamingoMath.com

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

© 2026 FlamingoMath.com

9 $\int \frac{1}{\sqrt{6x - x^2} - 8} dx$

© 2026 FlamingoMath.com

A $\int (x^3 + x^2 + x + 1) dx$

© 2026 FlamingoMath.com

B $\int \left(x^2 + 2x + \frac{1}{x-2} \right) dx$

© 2026 FlamingoMath.com

C $\int \frac{1}{x^2 + 2x + 2} dx$

© 2026 FlamingoMath.com

D $\int (x^{3/2} + 2x^{1/2} + x^{-1/2}) dx$

© 2026 FlamingoMath.com

E $\int (x^2 + x^{-2}) dx$

© 2026 FlamingoMath.com

F $\int \frac{1}{(x+2)^2 + (\sqrt{2})^2} dx$

© 2026 FlamingoMath.com

H $\int \frac{1}{\sqrt{1 - (x-3)^2}} dx$

© 2026 FlamingoMath.com

K $\int \frac{1}{\sqrt{1 - (x-3)^2}} dx$

© 2026 FlamingoMath.com

Antidifferentiation Triples Matching Activity

Name _____

Card	Equivalent Representation	Antiderivative
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

Antidifferentiation Triples Matching Activity

Name _____

Card	Equivalent Representation	Antiderivative
1.		
2.		
3.		
4.		
5.		

Integral	Simplified Step	Antiderivative
1. $\int (x^2 + 1)^2 dx$	A. $\int (x^3 + x^2 + x + 1) dx$	m. $\frac{x^3}{3} - \frac{1}{x} + C$
2. $\int \frac{x^4 + 1}{x^2} dx$	B. $\int \left(x^2 + 2x + \frac{1}{x-2} \right) dx$	n. $\frac{1}{\sqrt{2}} \tan^{-1} \left(\frac{x+2}{\sqrt{2}} \right) + C$
3. $\int \frac{x^4 - 1}{x - 1} dx$	C. $\int \frac{1}{x^2 + 2x + 2} dx$	o. $\frac{1}{\sqrt{2}} \tan^{-1} \left(\frac{x+2}{\sqrt{2}} \right) + C$
4. $\int \frac{1}{x^2 + 2x + 2} dx$	D. $\int (x^{3/2} + 2x^{1/2} + x^{-1/2}) dx$	q. $\frac{x^3}{3} + x^2 + \ln x-2 + C$
5. $\int x(2x + 1)^2 dx$	E. $\int (x^2 + x^{-2}) dx$	r. $\frac{x^5}{5} + \frac{2x^3}{3} + x + C$
6. $\int \frac{1}{x^2 - 6x + 10} dx$	F. $\int \frac{1}{(x+2)^2 + (\sqrt{2})^2} dx$	s. $\frac{2x^{5/2}}{5} + \frac{4x^{3/2}}{3} + 2\sqrt{x} + C$
7. $\int \frac{x^3 + x + 1}{x} dx$	G. $\int \frac{1}{(x-3)^2 + 1} dx$	t. $\frac{x^3}{3} + x + \ln x + C$
8. $\int \frac{x^3 - 4x + 1}{x - 2} dx$	H. $\int \frac{1}{\sqrt{1 - (x-3)^2}} dx$	v. $\arctan(x-3) + C$
9. $\int \frac{1}{\sqrt{6x - x^2} - 8} dx$	I. $\int \left(x^2 + 1 + \frac{1}{x} \right) dx$	w. $x^4 + \frac{4x^3}{3} + \frac{x^2}{2} + C$
10. $\int \frac{x^2 + 2x + 1}{\sqrt{x}} dx$	K. $\int (4x^3 + 4x^2 + x) dx$	x. $\frac{x^4}{4} + \frac{x^3}{3} + \frac{x^2}{2} + x + C$

m $\frac{x^3}{3} - \frac{1}{x} + C$

© 2026 FlamingoMath.com

p $\arcsin(x-3) + C$

© 2026 FlamingoMath.com

r $\frac{x^5}{5} + \frac{2x^3}{3} + x + C$

© 2026 FlamingoMath.com

t $\frac{x^3}{3} + x + \ln|x| + C$

© 2026 FlamingoMath.com

v $\arctan(x-3) + C$

© 2026 FlamingoMath.com

w $x^4 + \frac{4x^3}{3} + \frac{x^2}{2} + C$

© 2026 FlamingoMath.com

x $\frac{x^4}{4} + \frac{x^3}{3} + \frac{x^2}{2} + x + C$

© 2026 FlamingoMath.com