

ODD ONE OUT Names: _____ Block _____ Date _____

Which of the following don't belong? 3 of the problems in each group below require the use of the same strategy. Determine which is the "odd one out" and work the problems in each group.

1.

A. $\int \cos(2x) dx$

B. $\int (5-2x)^4 dx$

C. $\int \sin x dx$

D. $\int D''(2x) dx$

2.

A. $\int \frac{\arctan x}{1+x^2} dx =$

B. $\int \frac{1}{x} dx =$

C. $\int \frac{\arcsin x}{\sqrt{1-x^2}} dx =$

D. $\int \frac{\ln x}{x} dx =$

ODD ONE OUT—In each row, one of the four mathematical representations does not fit. Decide which one is the odd one out. Be prepared to explain your reasoning.

A	1	$\int_1^e \frac{1}{x} dx$	0	$\ln e - \ln 1$
B	$\int_4^8 \frac{2}{x} dx$	$\ln 256$	$2 \ln 2$	$2 \ln 8 - 2 \ln 4$
C	$\int_1^{4e} \frac{1}{x} dx$	$4 \ln 1$	$\ln 4 + 1$	$\ln(4e) - \ln 1$
D	$\ln(6e) - \ln(2e)$	$\ln(3e)$	$\int_{2e}^{6e} \frac{1}{x} dx$	$\ln(3)$
E	$\ln 2$	$\ln 3$	$\int_3^9 \frac{1}{x+3} dx$	$\ln 12 - \ln 6$
F	$\int_1^e \frac{x+1}{x} dx$	e	$e - 1$	$\int_1^e \left(1 + \frac{1}{x}\right) dx$
G	$\int_1^e \frac{x}{x+1} dx$	$\int_1^e (1+x) dx$	$\int_1^e \left(1 - \frac{1}{x+1}\right) dx$	$\int_1^e \left(\frac{x+1-1}{x+1}\right) dx$
H	$e^{\ln 4} - e^{\ln 1}$	$\int_{\ln 1}^{\ln 4} e^x dx$	3	4