

**MA114 Summer II 2018**  
**Worksheet 1b**

1. Compute the integrals below:

a)  $\int \arcsin(x) dx$

Hint: Remember that the derivative of  $\arcsin(x)$  is  $\frac{1}{\sqrt{1-x^2}}$  and emulate the  $\arctan(x)$  example from class.

b)  $\int e^{2x} \sin(x) dx,$

2. Let  $f(x)$  be a twice differentiable function with  $f(1) = 2$ ,  $f(4) = 7$ ,  $f'(1) = 5$ , and  $f'(4) = 3$ . Evaluate  $\int_1^4 x f''(x) dx$ . Hint: What is  $\int_1^4 f'(x) dx$ ?

3. What is  $\frac{1}{x} - \frac{1}{x+1}$ ?