

1. Compute  $\int \left( 4 \sin(4v) + \frac{2}{v^2} + \frac{5}{\sqrt{1-v^2}} \right) dv$ .

*Solution.*  $-\cos(4v) + (-2v^{-1}) + 5 \arcsin v$

2. Compute  $\int_2^e \left( \frac{9w^3 - 5}{w} \right) dw$ .

*Solution.*  $-29 + 3e^3 + 5 \ln 2$ .

3. Compute  $\int \sin(3y) e^{6 \cos(3y)} dy$ .

*Solution.*  $\frac{-e^{6 \cos(3y)}}{18}$ .

4. Compute  $\int_1^4 \frac{v}{5v^2 - 4} dv$ .

*Solution.*  $\frac{\ln 76}{10}$ .

5. Compute  $\int 6 \arcsin(4t) dt$ .

*Solution.*  $6t \arcsin(4t) + \frac{3}{2} \sqrt{1 - 16t^2}$ .

6. Compute  $\int \frac{-6y + 2}{y^2 - 2y} dy$ .

*Solution.*  $-5 \ln |y - 2| - \ln |y|$ .

7. Compute  $\int \frac{18u + 6}{u^2 - 4u + 29} du$ .

*Solution.*  $9 \ln |(u - 2)^2 + 25| + \frac{42}{5} \arctan \left( \frac{u - 2}{5} \right)$ .