

No calculators will be allowed and no partial credit will be given.

1. Express the indefinite integral $\int 2 (\cos(x))^4 \sin(x) dx$ in terms of elementary functions. Use the symbol C to denote an arbitrary constant.
2. Express the indefinite integral $\int 2 (\cos(x))^5 (\sin(x))^4 dx$ in terms of elementary functions. Use the symbol C to denote an arbitrary constant.
3. Express in simplified form the value of $\int_0^{\frac{3\pi}{2}} 2 (\cos(x))^4 \sin(x) dx$.
4. Express in simplified form the value of $\int_0^{\frac{\pi}{2}} 2 \cos(x) (\sin(x))^3 dx$.
5. Express the indefinite integral $\int 4 \cos(x) \sqrt{\sin(x)} dx$ in terms of elementary functions. Use the symbol C to denote an arbitrary constant.
6. Express the indefinite integral $\int 4 \sqrt{\cos(t)} \sin(t) dt$ in terms of elementary functions. Use the symbol C to denote an arbitrary constant.
7. Express in simplified form the value of $\int_0^{\frac{\pi}{2}} \frac{(\cos(x))^3 \sqrt{\sin(x)}}{2} dx$.
8. Express in simplified form the value of $\int_0^{\frac{\pi}{2}} 4 \sqrt{\cos(x)} (\sin(x))^3 dx$.
9. Express the indefinite integral $\int 3 (\sin(t))^2 dt$ in terms of elementary functions. Use the symbol C to denote an arbitrary constant.

1. $-\frac{2 (\cos(x))^5}{5} + C$

2. $\frac{2 (\sin(x))^9}{9} - \frac{4 (\sin(x))^7}{7} + \frac{2 (\sin(x))^5}{5} + C$

3. $\frac{2}{5}$

4. $\frac{1}{2}$

5. $\frac{8 (\sin(x))^{\frac{3}{2}}}{3} + C$

6. $-\frac{8 (\cos(t))^{\frac{3}{2}}}{3} + C$

7. $\frac{4}{21}$

8. $\frac{32}{21}$

9. $\frac{3t}{2} - \frac{3 \sin(2t)}{4} + C$