1. p37e01 - Calcula las siguientes integrales inmediatas:

(a) $\int 4x^6 \cdot dx$

Sol: $\frac{4x^7}{7} + K$

(b) $\int 6x^3 + 8x^2 + 3 \cdot dx$

Sol: $\frac{3x^4}{2} + \frac{8x^3}{3} + 3x + K$

(c) $\int \sqrt{2}\sqrt{x} \cdot dx$

Sol: $\frac{2\sqrt{2}x^{\frac{3}{2}}}{3} + K$

(d) $\int \frac{1}{\sqrt[5]{x}} \cdot dx$

Sol: $\frac{5x^{\frac{4}{5}}}{4} + K$

(e) $\int \frac{\sqrt[3]{5}\sqrt[3]{x^2}+\sqrt{3}\sqrt{x^3}}{\sqrt{2}\sqrt{x}} \cdot dx$

Sol: $\frac{\sqrt{2}\left(\frac{6\sqrt[3]{5}\sqrt{x}\sqrt[3]{x^2}}{7}+\frac{\sqrt{3}\sqrt{x}\sqrt{x^3}}{2} \right)}{2} + K$

(f) $\int \frac{1}{x-1} \cdot dx$

Sol: $\log(x-1) + K$

(g) $\int \frac{5}{4x^2+1} \cdot dx$

Sol: $\frac{5\operatorname{atan}(2x)}{2} + K$

(h) $\int \frac{2}{9x^2+1} \cdot dx$

Sol: $\frac{2\operatorname{atan}(3x)}{3} + K$

(i) $\int \frac{1}{1-4x^2} \cdot dx$

Sol: $-\frac{\log\left(x-\frac{1}{2}\right)}{4} + \frac{\log\left(x+\frac{1}{2}\right)}{4} + K$

(j) $\int \frac{1}{x^2+4} \cdot dx$

Sol: $\frac{\operatorname{atan}\left(\frac{x}{2}\right)}{2} + K$

(k) $\int \frac{2x-3}{x^2-3x+9} \cdot dx$

Sol: $\log\left(x^2 - 3x + 9\right) + K$

(l) $\int 2e^{x^2}x \cdot dx$

Sol: $e^{x^2} + K$

(m) $\int \frac{1}{x-4} \cdot dx$

Sol: $\log(x - 4) + K$

(n) $\int \frac{1}{(x-4)^3} \cdot dx$

Sol: $-\frac{1}{2x^2-16x+32} + K$

(ñ) $\int e^{5x} \cdot dx$

Sol: $\frac{e^{5x}}{5} + K$

(o) $\int \frac{\sqrt{x}+x}{x^2} \cdot dx$

Sol: $\log(x) - \frac{2}{\sqrt{x}} + K$

(p) $\int \frac{\log(x)^3}{x} \cdot dx$

Sol: $\frac{\log(x)^4}{4} + K$

(q) $\int \frac{\sin\left(\sqrt{x}\right)}{\sqrt{x}} \cdot dx$

Sol: $-2\cos\left(\sqrt{x}\right) + K$

(r) $\int e^{9+(-2)x} \cdot dx$

Sol: $-\frac{e^{9-2x}}{2} + K$

2. p37e01cont - Calcula las siguientes integrales inmediatas:

(a) $\int 3^x - x^3 \cdot dx$

Sol: $\frac{3^x}{\log(3)} - \frac{x^4}{4} + K$

(b) $\int \frac{3x^2 + 2e^{2x} + \cos(x)}{x^3 + e^{2x} + \sin(x)} \cdot dx$

Sol: $\log\left(x^3 + e^{2x} + \sin(x)\right) + K$

(c) $\int 6\cos(2x - 1) \cdot dx$

Sol: $3\sin(2x - 1) + K$

(d) $\int \frac{x+1}{x^2 + 2x + 3} \cdot dx$

Sol: $\frac{\log\left(x^2 + 2x + 3\right)}{2} + K$

(e) $\int \sin(x)\cos(x) \cdot dx$

Sol: $\frac{\sin^2(x)}{2} + K$

(f) $\int e^{4x-3} \cdot dx$

Sol: $\frac{e^{4x-3}}{4} + K$

(g) $\int \frac{4}{x^2 + 3} \cdot dx$

Sol: $\frac{4\sqrt{3}\operatorname{atan}\left(\frac{\sqrt{3}x}{3}\right)}{3} + K$

(h) $\int \sqrt{(x+3)^3} \cdot dx$

Sol: $\int \sqrt{(x+3)^3}\, dx + K$

(i) $\int \frac{\sin(x)}{\cos(x)} \cdot dx$

Sol: $-\log(\cos(x)) + K$

3. p37e02 - Calcula las siguientes integrales, por cambio de variable:

(a) $\int x\sin\left(x^2\right) \cdot dx$

Sol: $-\frac{\cos\left(x^2\right)}{2} + K$

(b) $\int \frac{x}{\sqrt{x^2+5}} \cdot dx$

Sol: $\sqrt{x^2+5} + K$

(c) $\int \frac{\sin(x)}{\cos^5(x)} \cdot dx$

Sol: $\frac{1}{4\cos^4(x)} + K$

(d) $\int \frac{x}{(x^2+3)^5} \cdot dx$

Sol: $-\frac{1}{8x^8 + 96x^6 + 432x^4 + 864x^2 + 648} + K$

(e) $\int \frac{\tan^2(x) + 1}{\sqrt{\tan(x)}} \cdot dx$

Sol: $2\sqrt{\tan(x)} + K$

(f) $\int (x-1)\sqrt{x^2 - 2x} \cdot dx$

Sol: $\frac{x^2\sqrt{x^2-2x}}{3} - \frac{2x\sqrt{x^2-2x}}{3} + K$

(g) $\int \sin(x)\sin(\cos(x)) \cdot dx$

Sol: $\cos(\cos(x)) + K$

(h) $\int \frac{\log(x)^2 + 1}{x} \cdot dx$

Sol: $\frac{\log(x)^3}{3} + \log(x) + K$

(i) $\int \sqrt{(\cos(x) + 1)^3}\sin(x) \cdot dx$

Sol: $\int \sqrt{(\cos(x) + 1)^3}\sin(x)\, dx + K$

4. p37e03 - Calcula las siguientes integrales, por partes:

(a) $\int e^x x \cdot dx$

> **Sol:** $(x-1)e^x + K$

(b) $\int \log(x) \cdot dx$

> **Sol:** $x\log(x) - x + K$

(c) $\int x^3 \log(x) \cdot dx$

> **Sol:** $\frac{x^4\log(x)}{4} - \frac{x^4}{16} + K$

(d) $\int x\sin(x) \cdot dx$

> **Sol:** $-x\cos(x) + \sin(x) + K$

(e) $\int \operatorname{atan}(x) \cdot dx$

> **Sol:** $x\operatorname{atan}(x) - \frac{\log\left(x^2+1\right)}{2} + K$

(f) $\int \operatorname{asin}(x) \cdot dx$

> **Sol:** $x\operatorname{asin}(x) + \sqrt{1-x^2} + K$

(g) $\int x\cos(3x) \cdot dx$

> **Sol:** $\frac{x\sin(3x)}{3} + \frac{\cos(3x)}{9} + K$

(h) $\int e^{2x} x^2 \cdot dx$

> **Sol:** $\frac{\left(2x^2-2x+1\right)e^{2x}}{4} + K$

(i) $\int \frac{x}{e^x} \cdot dx$

> **Sol:** $(-x-1)e^{-x} + K$

(j) $\int \frac{\log(x)}{x^2} \cdot dx$

> **Sol:** $-\frac{\log(x)}{x} - \frac{1}{x} + K$

5. p37e04 - Resuelve las siguientes integrales, que luego aparecerán al integrar funciones racionales:

(a) $\int \frac{3}{2x-1} \cdot dx$

> **Sol:** $\frac{3\log(2x-1)}{2} + K$

(b) $\int \frac{2}{(x+2)^3} \cdot dx$

> **Sol:** $-\frac{1}{x^2+4x+4} + K$

(c) $\int \frac{7x-5}{x^2+4} \cdot dx$

> **Sol:** $\frac{7\log\left(x^2+4\right)}{2} - \frac{5\operatorname{atan}\left(\frac{x}{2}\right)}{2} + K$

(d) $\int \frac{x+2}{x^2+x+1} \cdot dx$

> **Sol:** $\frac{\log\left(x^2+x+1\right)}{2} + \sqrt{3}\operatorname{atan}\left(\frac{\sqrt{3}(2x+1)}{3}\right) + K$

(e) $\int \frac{1}{3x-4} \cdot dx$

> **Sol:** $\frac{\log(3x-4)}{3} + K$

(f) $\int \frac{7}{(2x-3)^2} \cdot dx$

> **Sol:** $-\frac{7}{4x-6} + K$

(g) $\int \frac{3x+4}{x^2+2} \cdot dx$

> **Sol:** $\frac{3\log\left(x^2+2\right)}{2} + 2\sqrt{2}\operatorname{atan}\left(\frac{\sqrt{2}x}{2}\right) + K$

(h) $\int \frac{x-1}{x^2+2x+3} \cdot dx$

> **Sol:** $\frac{\log\left(x^2+2x+3\right)}{2} - \sqrt{2}\operatorname{atan}\left(\frac{\sqrt{2}(x+1)}{2}\right) + K$

6. p37e05 - Calcula las siguientes integrales racionales:

(a) $\int \frac{x-2}{x^2+x} \cdot dx$

Sol: $-2\log(x) + 3\log(x+1) + K$

(b) $\int \frac{x^3+4x^2-10x+7}{x^3-7x-6} \cdot dx$

Sol: $x + 2\log(x-3) - 5\log(x+1) + 7\log(x+2) + K$

(c) $\int \frac{2x^2+5x-1}{x^3+x^2-2x} \cdot dx$

Sol: $\frac{\log(x)}{2} + 2\log(x-1) - \frac{\log(x+2)}{2} + K$

(d) $\int \frac{2x+3}{x^2+3x-10} \cdot dx$

Sol: $\log\left(x^2+3x-10\right) + K$

(e) $\int \frac{1}{x^3+x^2-6x} \cdot dx$

Sol: $-\frac{\log(x)}{6} + \frac{\log(x-2)}{10} + \frac{\log(x+3)}{15} + K$

(f) $\int \frac{x^2+2x}{x^2-1} \cdot dx$

Sol: $x + \frac{3\log(x-1)}{2} + \frac{\log(x+1)}{2} + K$

(g) $\int \frac{2x^2+7x-1}{x^3+x^2-x-1} \cdot dx$

Sol: $\frac{2(x+1)\log(x-1)-3}{x+1} + K$

(h) $\int \frac{2x-4}{(x-1)^2(x+3)} \cdot dx$

Sol: $\frac{5(x-1)(\log(x-1)-\log(x+3))+4}{8(x-1)} + K$

(i) $\int \frac{x^2+x}{x^4+2x^3-3x^2-4x+4} \cdot dx$

Sol: $\frac{-12x+5(\log(x-1)-\log(x+2))\left(x^2+x-2\right)-6}{27(x^2+x-2)} + K$

(j) $\int \frac{x+2}{x^3-2x^2+x} \cdot dx$

Sol: $\frac{2(x-1)(\log(x)-\log(x-1))-3}{x-1} + K$

(k) $\int \frac{8x^2-2x-1}{x^3-x^2+4x-4} \cdot dx$

Sol: $\log(x-1) + \frac{7\log\left(x^2+4\right)}{2} + \frac{5\operatorname{atan}\left(\frac{x}{2}\right)}{2} + K$

(l) $\int \frac{6x+8}{x^2+2x+5} \cdot dx$

Sol: $3\log\left(x^2+2x+5\right) + \operatorname{atan}\left(\frac{x}{2}+\frac{1}{2}\right) + K$

(m) $\int \frac{3x-2}{x^3-3x^2+12x-10} \cdot dx$

Sol: $\frac{\log(x-1)}{9} - \frac{\log\left(x^2-2x+10\right)}{18} + \operatorname{atan}\left(\frac{x}{3}-\frac{1}{3}\right) + K$

7. p37e06 - Calcula las siguientes integrales trigonométricas:

(a) $\int \cos^3(x)\, dx$

Sol: $-\frac{\sin^3(x)}{3} + \sin(x) + K$

(b) $\int \sin^3(x)\, dx$

Sol: $\frac{\cos^3(x)}{3} - \cos(x) + K$

(c) $\int \sin^3(x)\cos(x)\, dx$

Sol: $\frac{\sin^4(x)}{4} + K$

(d) $\int \sin(x)\cos^4(x)\, dx$

Sol: $-\frac{\cos^5(x)}{5} + K$

(e) $\int \cos^2(x)\, dx$

Sol: $\frac{x}{2} + \frac{\sin(2x)}{4} + K$

(f) $\int \sin^2(x)\,dx$

Sol: $\frac{x}{2} - \frac{\sin(2x)}{4} + K$

(g) $\int \sin^2(x)\cos^2(x)\,dx$

Sol: $\frac{x}{8} - \frac{\sin(4x)}{32} + K$

(h) $\int \cos^4(x)\,dx$

Sol: $\frac{3x}{8} + \frac{\sin(2x)}{4} + \frac{\sin(4x)}{32} + K$

(i) $\int \frac{\sin(x)+\tan(x)}{\cos(x)}\,dx$

Sol: $-\log(\cos(x)) + \frac{1}{\cos(x)} + K$

(j) $\int \frac{\sin(x)}{(\cos^2(x)+1)\cos(x)}\,dx$

Sol: $\frac{\log(\cos^2(x)+1)}{2} - \log(\cos(x)) + K$

(k) $\int \frac{\sin(x)\cos(x)}{1-\cos(x)}\,dx$

Sol: $\log(\cos(x)-1) + \cos(x) + K$

(l) $\int \frac{\sin^3(x)}{1-\cos(x)}\,dx$

Sol: $-\frac{\cos^2(x)}{2} - \cos(x) + \frac{1}{6} + K$

(m) $\int \frac{1}{\cos(x)+2}\,dx$

Sol: $\frac{2\sqrt{3}\left(\operatorname{atan}\left(\frac{\sqrt{3}\tan\left(\frac{x}{2}\right)}{3}\right)+\pi\left\lfloor\frac{x}{2\pi}-\frac{1}{2}\right\rfloor\right)}{3}+K$

(n) $\int \frac{1}{\cos(x)+2}\,dx$

Sol: $\frac{2\sqrt{3}\left(\operatorname{atan}\left(\frac{\sqrt{3}\tan\left(\frac{x}{2}\right)}{3}\right)+\pi\left\lfloor\frac{x}{2\pi}-\frac{1}{2}\right\rfloor\right)}{3}+K$

(ñ) $\int \frac{1}{\sin(x)+\cos(x)+1}\,dx$

Sol: $\log\left(\tan\left(\frac{x}{2}\right)+1\right) + K$

(o) $\int \frac{\cos^2(x)}{\sin^2(x)}\,dx$

Sol: $-x - \frac{1}{\tan(x)} + K$

8. p37e07 - Calcula las siguientes integrales irracionales:

(a) $\int \frac{\sqrt{x}}{\sqrt[4]{x}+\sqrt{x}}\,dx$

Sol: $-\frac{4x^{\frac{3}{4}}}{3} - 4\sqrt[4]{x} + 2\sqrt{x} + x + 4\log(\sqrt[4]{x}+1) + K$

(b) $\int \frac{\sqrt[4]{x}+\sqrt{x}}{-\sqrt[4]{x}+\sqrt{x}}\,dx$

Sol: $\frac{8x^{\frac{3}{4}}}{3} + 8\sqrt[4]{x} + 4\sqrt{x} + x + 8\log(\sqrt[4]{x}-1) + K$

(c) $\int \frac{\sqrt{x}}{x+1}\,dx$

Sol: $2\sqrt{x} - 2\operatorname{atan}(\sqrt{x}) + K$

(d) $\int \frac{x}{\sqrt{x}+x}\,dx$

Sol: $-2\sqrt{x} + x + 2\log(\sqrt{x}+1) + K$

(e) $\int \frac{1}{-\sqrt[4]{x}+\sqrt{x}}\,dx$

Sol: $4\sqrt[4]{x}+2\sqrt{x}+4\log(\sqrt[4]{x}-1)+K$

(f) $\int \frac{1}{x\sqrt{1-x^2}}\,dx$

Sol: $\begin{cases} -\operatorname{acosh}\left(\frac{1}{x}\right) & \text{for } \left|\frac{1}{x^2}\right| > 1 \\ i\operatorname{asin}\left(\frac{1}{x}\right) & \text{otherwise} \end{cases} + K$

(g) $\int \sqrt{x^2 + 1}\, dx$

Sol: $\frac{x\sqrt{x^2+1}}{2} + \frac{\operatorname{asinh}(x)}{2} + K$

9. p38e08 - Calcula las siguientes integrales, por el método que creas conveniente:

(a) $\int e^x \cos(e^x)\, dx$

Sol: $\sin(e^x) + K$

(b) $\int (x-1)\sqrt[3]{x^2 - 2x}\, dx$

Sol: $\frac{3(x(x-2))^{\frac{4}{3}}}{8} + K$

(c) $\int \frac{e^x}{(e^x+4)^2}\, dx$

Sol: $-\frac{1}{e^x+4} + K$

(d) $\int \frac{\tan^3(x)+\tan(x)}{1-2\tan(x)}\, dx$

Sol: $-\frac{\log\left(\tan(x)-\frac{1}{2}\right)}{4} - \frac{\tan(x)}{2} + K$

(e) $\int \frac{1}{\sqrt{16-x^2}}\, dx$

Sol: $\operatorname{asin}\left(\frac{x}{4}\right) + K$

(f) $\int \frac{6x^2-9x+5}{(x-1)^2(x+2)}\, dx$

Sol: $\frac{(x-1)(7\log(x-1)+47\log(x+2))-6}{9(x-1)} + K$

(g) $\int \left(6x^5 + \sqrt[3]{x^4} - \frac{5}{\sqrt[7]{x^5}}\right) dx$

Sol: $x^6 + \frac{3x\sqrt[3]{x^4}}{7} - \frac{35x}{2\sqrt[7]{x^5}} + K$

(h) $\int (x^2 - 2x + 3)\log(x)\, dx$

Sol: $\frac{x\left(-2x^2+9x+6\left(x^2-3x+9\right)\log(x)-54\right)}{18} + K$

(i) $\int \frac{1}{\left(\sqrt{x}\cos(x)\right)^2}\, dx$

Sol: $\int \frac{1}{x\cos^2(x)}\, dx + K$

(j) $\int \frac{e^x+1}{e^x-1}\, dx$

Sol: $-x + 2\log(e^x - 1) + K$

(k) $\int \frac{\sqrt[3]{x}}{\sqrt{x^3}\sqrt[3]{x^4}}\, dx$

Sol: $-\frac{2x^{\frac{4}{3}}}{3\sqrt{x^3}\sqrt[3]{x^4}} + K$

(l) $\int e^{\cos(x)}\sin(x)\, dx$

Sol: $-e^{\cos(x)} + K$

(m) $\int \frac{x^2-1}{x^3-x^2}\, dx$

Sol: $\log(x) - \frac{1}{x} + K$

(n) $\int \frac{1}{\sqrt{x-1}+\sqrt{x+1}}\, dx$

Sol: $\frac{2\left(2x+\sqrt{x-1}\sqrt{x+1}\right)}{3\left(\sqrt{x-1}+\sqrt{x+1}\right)} + K$

10. p38e08cont - Calcula las siguientes integrales, por el método que creas conveniente:

(a) $\int \sin^4(x)\cos^3(x)\, dx$

Sol: $-\frac{\sin^7(x)}{7} + \frac{\sin^5(x)}{5} + K$

(b) $\int \frac{1}{\sqrt{x+1}+1}\,dx$

Sol: $2\sqrt{x+1} - 2\log\left(\sqrt{x+1}+1\right) + K$

(c) $\int \frac{e^{2x}}{\sqrt{e^x+1}}\,dx$

Sol: $\frac{2(e^x-2)\sqrt{e^x+1}}{3} + K$

(d) $\int \left(-4x + 5 + \frac{1}{x^2}\right)\,dx$

Sol: $\frac{x^2(5-2x)-1}{x} + K$

(e) $\int \frac{e^x}{e^{2x}+1}\,dx$

Sol: $\mathrm{RootSum}\left(4z^2 + 1, (i \mapsto i\log(2i + e^x))\right) + K$

(f) $\int \sqrt{x}\log(x)\,dx$

Sol: $\begin{cases} \dfrac{2x^{\frac{3}{2}}(3\log(x)-2)}{9} \\[2mm] -\dfrac{2x^{\frac{3}{2}}\left(3\log\left(\frac{1}{x}\right)+2\right)}{9} \\[2mm] -G_{3,3}^{2,1}\left(\begin{matrix}1 & \frac{5}{2},\frac{5}{2} \\ \frac{3}{2},\frac{3}{2} & 0\end{matrix}\middle| x\right) + G_{3,3}^{0,3}\left(\begin{matrix}\frac{5}{2},\frac{5}{2},1 \\ \frac{3}{2},\frac{3}{2},0\end{matrix}\middle| x\right) \end{cases}$

K

(g) $\int \frac{1-\log(x)}{x\log(x)}\,dx$

Sol: $-\log(x) + \log(\log(x)) + K$

(h) $\int \frac{\sqrt[5]{x^3}+\sqrt[4]{x^5}}{\sqrt{x}}\,dx$

Sol: $\frac{2\sqrt{x}\left(35\sqrt[5]{x^3}+22\sqrt[4]{x^5}\right)}{77} + K$

(i) $\int \frac{1}{x^2-4x+13}\,dx$

Sol: $\frac{\operatorname{atan}\left(\frac{x}{3}-\frac{2}{3}\right)}{3} + K$

(j) $\int \frac{e^x-3e^{3x}}{e^x+1}\,dx$

Sol: $-\frac{3e^{2x}}{2} + 3e^x - 2\log(e^x+1) + K$

(k) $\int \frac{1}{\cos(x)+1}\,dx$

Sol: $\tan\left(\frac{x}{2}\right) + K$ for $|x| < 1$

for $\left|\frac{1}{x}\right| < 1$ +

otherwise

11. p38e09 - Calcula las siguientes integrales, por el método que creas conveniente:

(a) $\int \frac{1}{\sqrt{x}\left(\sqrt{x}+1\right)^2}\,dx$

Sol: $-\frac{2}{\sqrt{x}+1} + K$

Sol: $-\log(x) + \frac{7\log(x+1)}{5} + \frac{3\log(x^2+4)}{10} + \frac{\operatorname{atan}\left(\frac{x}{2}\right)}{5} + K$

(b) $\int \frac{x^4}{\sqrt[4]{x^5+1}}\,dx$

Sol: $\frac{4\left(x^5+1\right)^{\frac{3}{4}}}{15} + K$

(e) $\int 3\sin^4(2x)\cos(2x)\,dx$

Sol: $\frac{3\sin^5(2x)}{10} + K$

(c) $\int x\log(x+1)\,dx$

Sol: $\frac{x^2\log(x+1)}{2} - \frac{x^2}{4} + \frac{x}{2} - \frac{\log(x+1)}{2} + K$

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

Sol: $\frac{2\sqrt{x}\left(5x^3-21x^2+35\right)}{35} + K$

(d) $\int \frac{x^3+2x-4}{x^4+x^3+4x^2+4x}\,dx$

(g) $\int \frac{e^x}{9e^{2x}+4}\,dx$

Sol: $\mathrm{RootSum}\left(144z^2 + 1, (i \mapsto i\log(8i + e^x))\right) + K$

(h) $\int x \operatorname{atan}(x)\,dx$

Sol: $\frac{x^2 \operatorname{atan}(x)}{2} - \frac{x}{2} + \frac{\operatorname{atan}(x)}{2} + K$

(i) $\int x^2\sqrt{x+1}\,dx$

Sol: $\frac{2\sqrt{x+1}\left(15x^3 + 3x^2 - 4x + 8\right)}{105} + K$

(j) $\int \cos^4(3x)\,dx$

Sol: $\frac{3x}{8} + \frac{\sin(6x)}{12} + \frac{\sin(12x)}{96} + K$

(k) $\int \frac{\sqrt[3]{x}-1}{\sqrt{x}+1}\,dx$

Sol: $\frac{6x^{\frac{5}{6}}}{5} - 3\sqrt[3]{x} - 2\sqrt{x} + 2\log(\sqrt{x}+1) + 2\sqrt[3]{-1}\log\left(-\sqrt[6]{x}e^{\frac{i\pi}{3}}+1\right) - 2\log\left(-\sqrt[6]{x}e^{i\pi}+1\right) - 2(-1)^{\frac{2}{3}}\log\left(-\sqrt[6]{x}e^{\frac{5i\pi}{3}}+1\right) + K$

(l) $\int \frac{\sin(x)}{\cos^2(x)-4}\,dx$

Sol: $-\frac{\log(\cos(x)-2)}{4} + \frac{\log(\cos(x)+2)}{4} + K$

(m) $\int \frac{2^{\tan(x)}}{\cos^2(x)}\,dx$

Sol: $\int \frac{2^{\tan(x)}}{\cos^2(x)}\,dx + K$

(n) $\int x^2\cos(2x)\,dx$

Sol: $\frac{x^2\sin(2x)}{2} + \frac{x\cos(2x)}{2} - \frac{\sin(2x)}{4} + K$

(ñ) $\int \frac{2x^3 - 11x^2 + 18x - 5}{x^2 - 5x + 6}\,dx$

Sol: $x^2 - x + 4\log(x-3) - 3\log(x-2) + K$

(o) $\int \frac{\sin^2(x)+1}{\sin(x)\cos(x)}\,dx$

Sol: $\log\left(\frac{2}{\cos(x)+1}\right) - 2\log\left(\tan\left(\frac{x}{2}\right)-1\right) - 2\log\left(\tan\left(\frac{x}{2}\right)+1\right) + \log\left(\tan\left(\frac{x}{2}\right)\right) + K$

(p) $\int e^x(x-1)\,dx$

Sol: $(x-2)e^x + K$

(q) $\int \frac{\log(x)^3}{x}\,dx$

Sol: $\frac{\log(x)^4}{4} + K$

(r) $\int \frac{1}{x\left(\log(x)^3 - 2\log(x)^2 - \log(x) + 2\right)}\,dx$

Sol: $\frac{\log(\log(x)-2)}{3} - \frac{\log(\log(x)-1)}{2} + \frac{\log(\log(x)+1)}{6} + K$

(s) $\int \frac{\cos(x)}{1-\cos(x)}\,dx$

Sol: $-x - \frac{1}{\tan\left(\frac{x}{2}\right)} + K$

(t) $\int \frac{6x+8}{x^2+2x+5}\,dx$

Sol: $3\log\left(x^2 + 2x + 5\right) + \operatorname{atan}\left(\frac{x}{2} + \frac{1}{2}\right) + K$