AP Calculus – WS: Partial Fraction Decomposition and Integration

1. $\displaystyle\int \frac{3\,(x+1) - 4\,(x-2)}{(x+1)\,(x-2)}\,dx$

3. $\displaystyle\int \frac{10}{(x+2)\,(x-3)}\,dx$

2. $\displaystyle\int \frac{5\,(2x+3) + 6\,(x+1)}{2x^2 + 5x + 3}\,dx$

4. $\displaystyle\int \frac{8}{(7x-1)\,(2x-3)}\,dx$

5. $\int \dfrac{1}{x^2 + x} dx$

7. $\int \dfrac{3x}{x^2 - 3x - 4} dx$

6. $\int \dfrac{24}{x^2 - 6x + 8} dx$

8. $\int \dfrac{3x + 5}{5x^2 - 4x - 1} dx$

9. $\int \dfrac{6x - 4}{(3x - 7)(x + 1)}\,dx$

11. $\int_{2}^{4} \dfrac{4x^2 + 3x + 5}{15x^2 - 34x + 15}\,dx$

10. $\int \dfrac{x^2 + 1}{x^2 - 5x - 6}\,dx$

12. $\int_{0}^{\ln 2} \dfrac{-11e^x}{e^{2x} - 5e^x - 24}\,dx$