



$$3) a) \int (y^{\frac{1}{2}}) = \frac{y^{\frac{3}{2}}}{\frac{3}{2}} = \frac{2}{3} \sqrt{y^3} + C$$

$$b) \int (y^{\frac{1}{3}}) = \frac{y^{\frac{4}{3}}}{\frac{4}{3}} = \frac{3}{4} \sqrt[3]{y^4} + C$$

$$c) \int (y^{-\frac{1}{2}}) = \frac{y^{\frac{1}{2}}}{\frac{1}{2}} = 2\sqrt{y} + C$$

$$d) \int (4y^{\frac{1}{3}}) = \frac{4y^{\frac{4}{3}}}{\frac{4}{3}} = 3\sqrt[3]{y^4} + C$$

$$e) \int (y^{\frac{3}{4}}) = \frac{y^{\frac{7}{4}}}{\frac{7}{4}} = \frac{4}{7} \sqrt[4]{y^7} + C$$

$$f) \int (5y^{-\frac{2}{3}}) = \frac{5y^{\frac{1}{3}}}{\frac{1}{3}} = 15\sqrt[3]{y} + C$$

$$g) \int (\sqrt[4]{y}) = \frac{y^{\frac{5}{4}}}{\frac{5}{4}} = \frac{4}{5} \sqrt[4]{y^5} + C$$

$$h) \int \left(\frac{7}{\sqrt{y}}\right) = \frac{7y^{\frac{1}{2}}}{\frac{1}{2}} = 14\sqrt{y} + C$$

$$i) \int \left(\frac{1}{2y^2}\right) = \frac{\frac{1}{2}y^{-1}}{-1} = -\frac{1}{2y} + C$$

$$j) \int (y^{\frac{2}{3}}) = \frac{y^{\frac{5}{3}}}{\frac{5}{3}} = \frac{3}{5} \sqrt[3]{y^5} + C$$

$$k) \int \left(\frac{5}{2}y^{-\frac{1}{2}}\right) = \frac{\frac{5}{2}y^{\frac{1}{2}}}{\frac{1}{2}} = -\frac{15}{2}\sqrt[3]{y} = -\frac{15}{2\sqrt[3]{y}} + C$$

$$l) \int \left(\frac{1}{3}y^{-\frac{1}{2}}\right) = \frac{\frac{1}{3}y^{\frac{1}{2}}}{\frac{1}{2}} = \frac{2}{3}\sqrt{y} + C$$

$$4) a) \int (3t^{\frac{1}{2}} - 1) dt = \frac{3t^{\frac{3}{2}}}{\frac{3}{2}} - \frac{t}{1} + C = 2\sqrt{t^3} - t + C$$

$$b) \int (2r + r^{\frac{1}{2}}) dr = \frac{2r^2}{2} + \frac{r^{\frac{3}{2}}}{\frac{3}{2}} + C = r^2 + \frac{2}{3}\sqrt[3]{r^3} + C$$

$$c) \int (9p^2 - 6p + 1) dp = \frac{9p^3}{3} - \frac{6p^2}{2} + p + C = 3p^3 - 3p^2 + p + C$$

$$d) \int (4x + x^{\frac{1}{3}}) dx = \frac{4x^2}{2} + \frac{x^{\frac{4}{3}}}{\frac{4}{3}} + C = 2x^2 + \frac{3}{4}\sqrt[3]{x^4} + C$$

$$e) \int \left(\frac{1}{y} + y\right) dy = \frac{y^{-1}}{-1} + \frac{y^2}{2} = -\frac{1}{2y} + \frac{1}{2}y^2 + C$$