

$$1. \int x^6 dx = \frac{x^{6+1}}{6+1} + C = \frac{x^7}{7} + C$$

$$2. \int 5x^4 dx = 5 \int x^4 dx = \frac{5x^{4+1}}{4+1} + C = \frac{5x^5}{5} + C = x^5 + C$$

$$3. \int ax^3 dx = a \int x^3 dx = \frac{ax^{3+1}}{3+1} + C = \frac{ax^4}{4} + C$$

$$4. \int b dx = b \int dx = bx + C$$

$$5. \int x^a dx = \frac{x^{a+1}}{a+1} = \frac{x^{8+1}}{8+1} + C = \frac{x^9}{9} + C = \frac{1}{9}x^9 + C = \frac{1}{9}x^9 + C$$

$$6. \int 4x^6 dx = \int 4 \frac{x^{6+1}}{6+1} + C = 4 \frac{x^7}{7} = \frac{4x^7}{7} + C$$

$$7. \int \frac{4}{4x-9} dx = \ln |4x-9| + C$$

$$8. \int x^{3/4} dx = \frac{x^{3/4+1}}{3/4+1} = \frac{x^{7/4}}{7/4} = \frac{4}{7}x^{7/4} + C$$

$$9. \int 12x^5 dx = 12 \int x^5 dx = 12 \frac{x^{5+1}}{5+1} = 12 \frac{x^6}{6} = 2x^6 + C$$

$$10. \int 4x^8 dx = 4 \int x^8 dx = 4 \frac{x^{8+1}}{8+1} = 4 \frac{x^9}{9} = \frac{4}{9}x^9 + C$$