

4.4. $\int_{-\infty}^{\infty} f(x) \delta(x-a) dx = f(a)$.

4.5. $\int_{-\infty}^{\infty} f(x) \delta(x-a) dx = f(a)$ if f is continuous at a .
If f has a jump discontinuity at a , then $\int_{-\infty}^{\infty} f(x) \delta(x-a) dx = \frac{1}{2}(f(a^+) + f(a^-))$.

4.6. $\int_{-\infty}^{\infty} f(x) \delta(x-a) dx = f(a)$ if f is continuous at a .
If f has a jump discontinuity at a , then $\int_{-\infty}^{\infty} f(x) \delta(x-a) dx = \frac{1}{2}(f(a^+) + f(a^-))$.

4.7. $\int_{-\infty}^{\infty} f(x) \delta(x-a) dx = f(a)$ if f is continuous at a .
If f has a jump discontinuity at a , then $\int_{-\infty}^{\infty} f(x) \delta(x-a) dx = \frac{1}{2}(f(a^+) + f(a^-))$.

4.8. $\int_{-\infty}^{\infty} f(x) \delta(x-a) dx = f(a)$ if f is continuous at a .
If f has a jump discontinuity at a , then $\int_{-\infty}^{\infty} f(x) \delta(x-a) dx = \frac{1}{2}(f(a^+) + f(a^-))$.

4.9. $\int_{-\infty}^{\infty} f(x) \delta(x-a) dx = f(a)$ if f is continuous at a .

4.10. $\int_{-\infty}^{\infty} f(x) \delta(x-a) dx = f(a)$ if f is continuous at a .

4.11. $\int_{-\infty}^{\infty} f(x) \delta(x-a) dx = f(a)$ if f is continuous at a .

4.12. $\int_{-\infty}^{\infty} f(x) \delta(x-a) dx = f(a)$ if f is continuous at a .