

- (2);
- (3);
- (4);
- (5);
- (6)

2. Т... ..
3. Т... ..

(II)

Т... ..

(III)

Ан... ..

(IV) S

1. Т... ..
2. Т... ..

4. $\int_{-\infty}^{\infty} f(x) \delta(x-a) dx = f(a)$.
 where $\delta(x-a)$ is the Dirac delta function, and $f(x)$ is a continuous function.

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

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The Dirac delta function $\delta(x-a)$ is defined by the property $\int_{-\infty}^{\infty} f(x) \delta(x-a) dx = f(a)$.
 Some common representations of the Dirac delta function are:
 $\delta(x) = \lim_{\epsilon \rightarrow 0} \frac{1}{\epsilon} \text{rect}\left(\frac{x}{\epsilon}\right)$, $\delta(x) = \lim_{\epsilon \rightarrow 0} \frac{1}{\sqrt{\pi}\epsilon} e^{-x^2/\epsilon^2}$,
 $\delta(x) = \lim_{\epsilon \rightarrow 0} \frac{1}{\pi} \frac{\epsilon}{x^2 + \epsilon^2}$, $\delta(x) = \lim_{\epsilon \rightarrow 0} \frac{1}{\pi} \frac{x}{x^2 + \epsilon^2}$,
 $\delta(x) = \lim_{\epsilon \rightarrow 0} \frac{1}{\pi} \frac{\epsilon}{x^2 + \epsilon^2}$, $\delta(x) = \lim_{\epsilon \rightarrow 0} \frac{1}{\pi} \frac{x}{x^2 + \epsilon^2}$.

A 4 T P' $\int_{-\infty}^{\infty} f(x) \delta(x-a) dx = f(a)$ where $\delta(x-a)$ is the Dirac delta function, and $f(x)$ is a continuous function.