

## Question 1

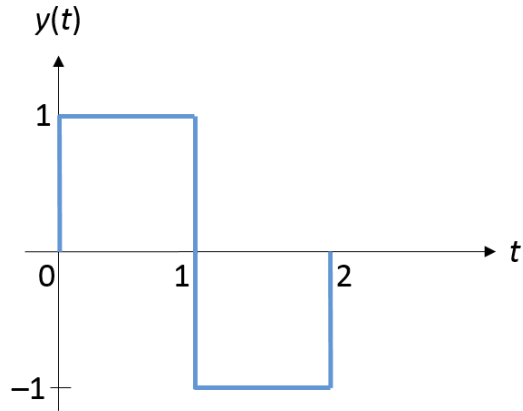
Not yet answered

Marked out of 1.00

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Edit question

Consider the function  $y(t)$  shown in the following figure.



The function can be expressed as

Select one:

- a.  $\text{rect}(t + \frac{1}{2}) - \text{rect}(t - \frac{1}{2})$
- b.  $\text{rect}(t - \frac{1}{2}) - \text{rect}(t - \frac{3}{2})$
- c.  $\text{rect}(t + \frac{1}{2}) - \text{rect}(t + \frac{3}{2})$
- d.  $\text{rect}(t - \frac{1}{2}) + \text{rect}(t + \frac{1}{2})$

## Question 2

Not yet answered

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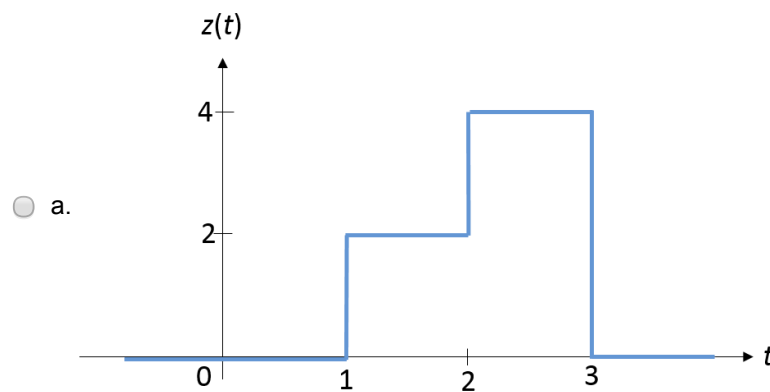
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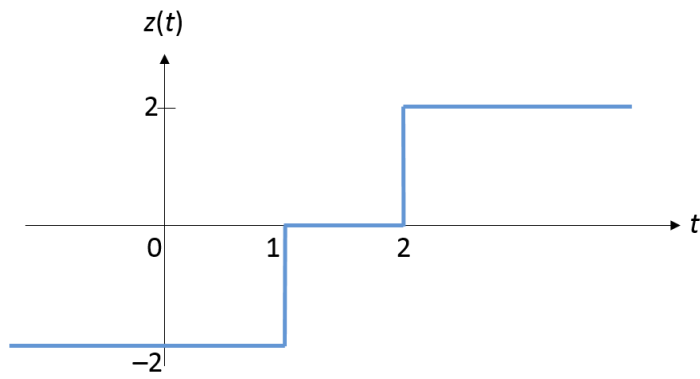
Which graph represents the following function?

$$z(t) = \text{sgn}(t - 1) + \text{sgn}(t - 2) + 2$$

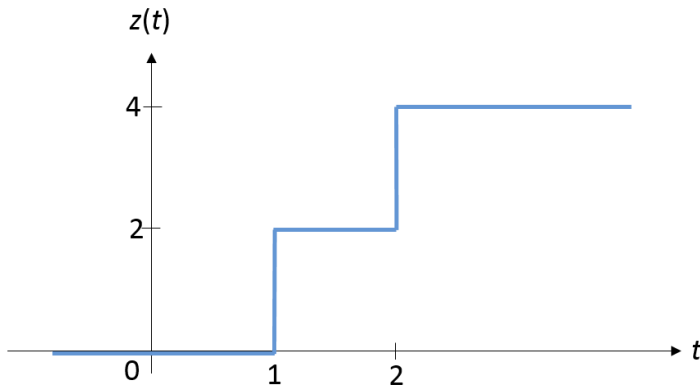
Select one:



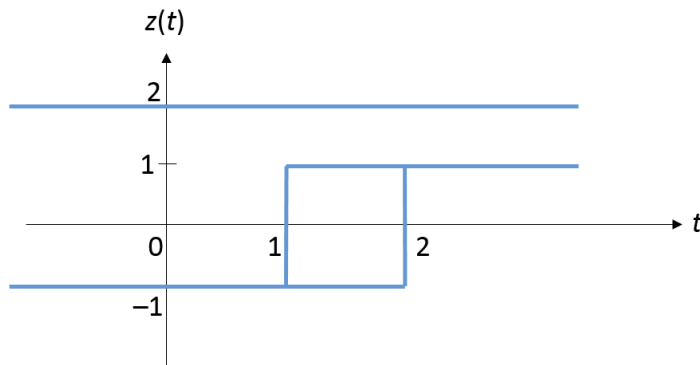
b.



c.



d.



### Question 3

Not yet answered

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What is the value of the following expression?

$$\int_1^2 e^t (t^2 - 1) \delta(t - 5) dt$$

Select one:

- a. 0
- b.  $\infty$
- c.  $24e^5$
- d.  $24e^5 \delta(5)$

### Question 4

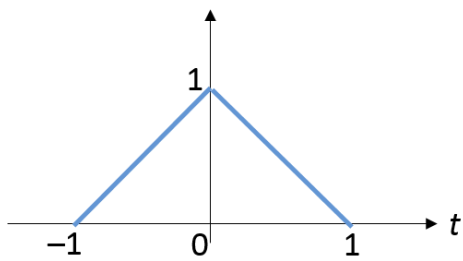
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The following figure shows the graph of the function  $\text{tri}(t)$ .

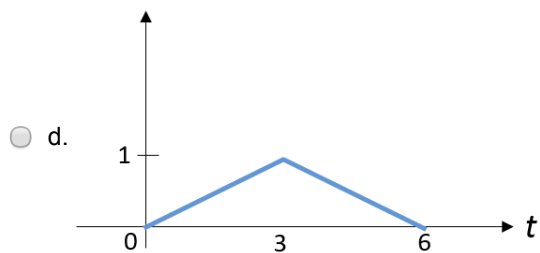
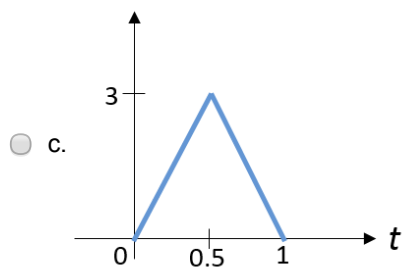
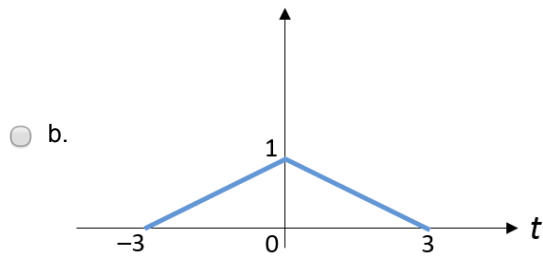
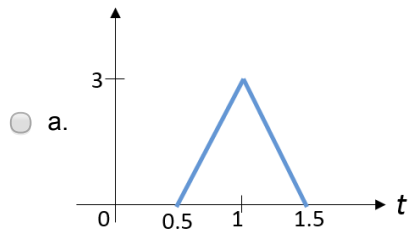
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Which is the graph of  $3 \operatorname{tri}(2t-1)$ ?

Select one:



Question 5

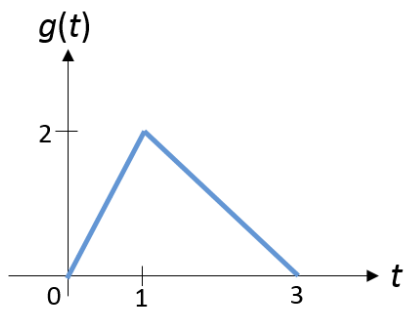
Not yet answered

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Consider the graph in the following figure.



The function  $g(t)$  can be described as

Select one:

- a.  $tu(t) - 2tu(t-1) + tu(t-3)$
- b.  $2tu(t) + (3-3t)u(t-1) + (t-3)u(t-3)$
- c.  $2tu(t) + (t+3)u(t-1) + (3-t)u(t-3)$
- d.  $(t+3)u(t) + (3-3t)u(t-1) + (3-t)u(t-3)$

Question **6**

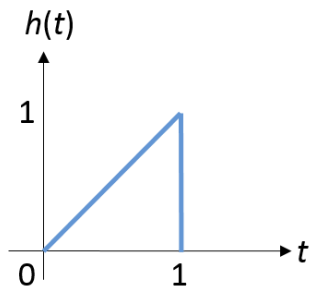
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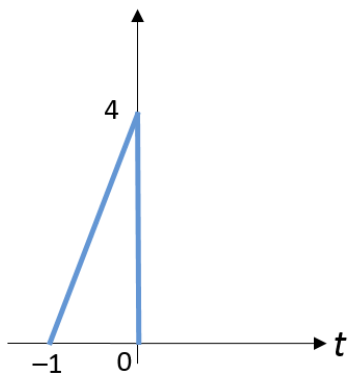
What is the graph of  $4h(t)+1$ , if the function  $h(t)$  is described by the following graph?



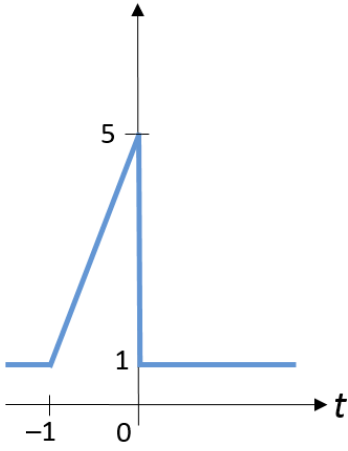
Select one:

- a.

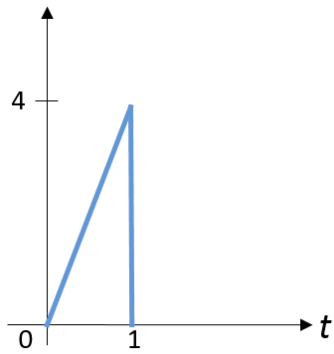
b.



c.



d.



Question 7

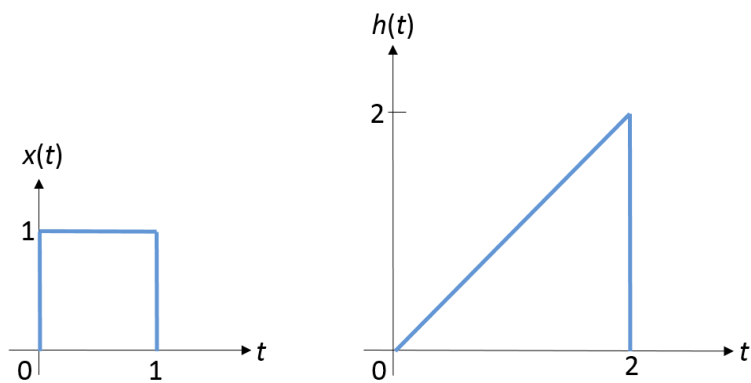
Not yet answered

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Given



The convolution of  $x(t)*h(t)$  for the interval  $0 < t < 1$  is calculated as

Select one:

a.  $\int_0^1 2\lambda d\lambda$

b.  $\int_0^1 \lambda d\lambda$


c.  $\int_0^t \lambda d\lambda$


d.  $\int_0^t 2\lambda d\lambda$

Question 8

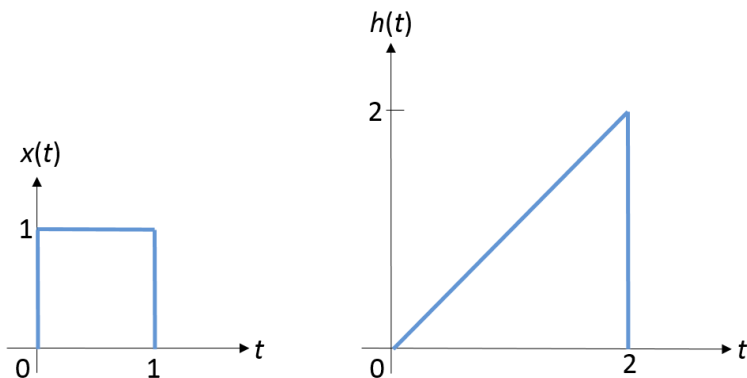
Not yet answered

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Given



The convolution of  $x(t)*h(t)$  for the interval  $1 < t < 2$  is calculated as

Select one:

a.  $\int_2^t 2\lambda d\lambda$

b.  $\int_0^2 \lambda d\lambda$


c.  $\int_{t-2}^2 2\lambda d\lambda$


d.  $\int_{t-1}^t \lambda d\lambda$

Question 9

Not yet answered

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Given  $f(t) = u(t)$  and  $g(t) = 4e^{-2t}u(t)$ . Calculate  $f(t) * g(t)$ .

Select one:

a.  $(1 - e^{-2t})u(t)$

b.  $4(1 - e^{-2t})u(t)$


c.  $8(1 - e^{-2t})u(t)$


d.  $2(1 - e^{-2t})u(t)$

Question 10

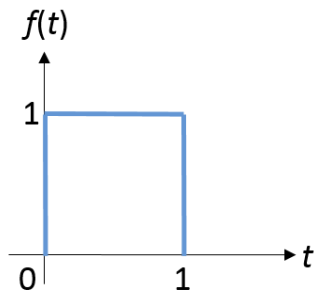
Not yet answered

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The function  $f(t)$  is described by the following figure.



Find  $y(t) = f(t) * f(t)$ .

Select one:

a.  $y(t) = \begin{cases} t^2, & 0 < t < 1 \\ t^2 - 2t, & 1 < t < 2 \\ 0, & \text{otherwise} \end{cases}$

b.  $y(t) = \begin{cases} t^2, & 0 < t < 1 \\ 2t - t^2, & 1 < t < 2 \\ 0, & \text{otherwise} \end{cases}$

c.  $y(t) = \begin{cases} t, & 0 < t < 1 \\ 2 - t, & 1 < t < 2 \\ 0, & \text{otherwise} \end{cases}$

d.  $y(t) = \begin{cases} t, & 0 < t < 1 \\ t - 2, & 1 < t < 2 \\ 0, & \text{otherwise} \end{cases}$

Next

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