

1. Signal  $x(t) = \cos(\omega_0 t)$  is

- ☐ A A finite energy signal
- ☒ B A finite power signal
- ☐ C Neither a finite energy signal nor a finite power signal
- ☐ D Not only finite energy but also finite power

提交

2. Signal  $x(t) = e^{-t}$  is

- ☐ A A finite energy signal
- ☐ B A finite power signal
- ☒ C Neither a finite energy signal nor a finite power signal
- ☐ D Not only finite energy but also finite power

提交

3. Signal  $x(t) = e^{-t}u(t)$  is

- ☒ A A finite energy signal
- ☐ B A finite power signal
- ☐ C Neither a finite energy signal nor a finite power signal
- ☐ D Not only finite energy but also finite power

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4. Which of the following are transformations of the independent variable?



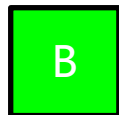
A

Time shift



E

Multiplication



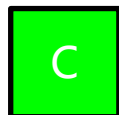
B

Time reversal



F

Differential



C

Time scaling



G

Integral



D

Addition

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5. True or False:

We can get signal  $x(5-2t)$  by shifting signal  $x(-2t)$  5 units to the left.

☐ A True

☒ B False

$$x(5-2t) = x(-2(t - \frac{5}{2}))$$

$$x(-2t) \xrightarrow{\text{right shifted } \frac{5}{2} \text{ units}} x(-2(t - \frac{5}{2}))$$

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6. Please select all the periodic signals listed below.

A

$$x(t) = 3 \cos(4t + \frac{\pi}{3})$$

$$T = \frac{\pi}{2}$$

B

$$x(t) = \sum_{n=-\infty}^{\infty} e^{-(2t-n)} u(2t - n)$$

$$T = \frac{1}{2}$$

C

$$x[n] = \cos(\frac{n}{8} - \pi)$$

$$\frac{2\pi}{\omega_0} = \frac{2\pi}{1/8} = 16\pi \text{ irrational}$$

D

$$x[n] = \cos(\frac{\pi}{2} n) \cos(\frac{\pi}{4} n)$$

$$N = 8$$

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