1.16)

a.) Even Symmetry

b.) Odd Symmetry

1.20)

a.)

$$8u(t-2) + 2u(t-4)$$

b.)

$$8u(t-2) - 2u(t-4)$$

c.)
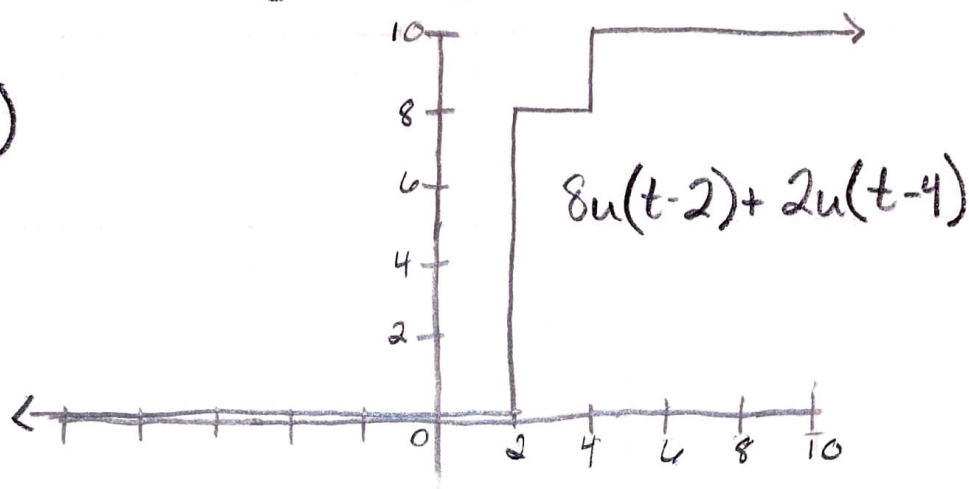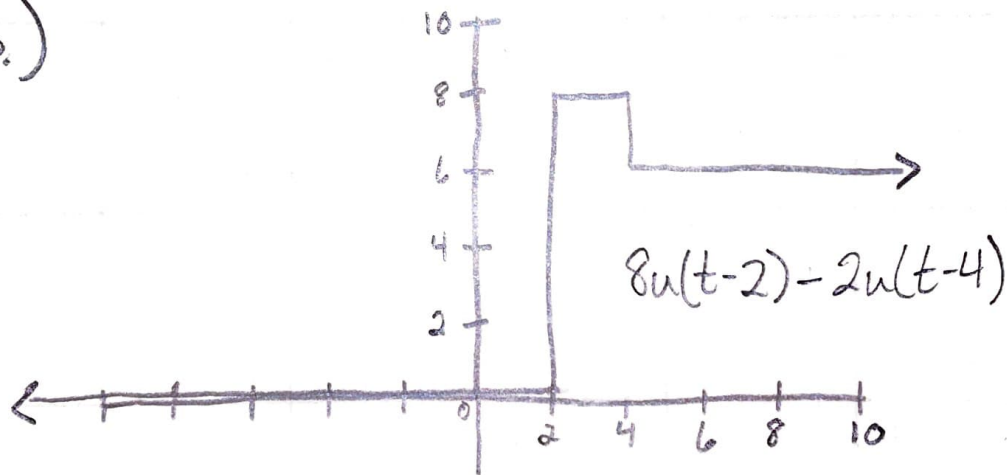
$$-2u(t+2) + 2u(t+4)$$
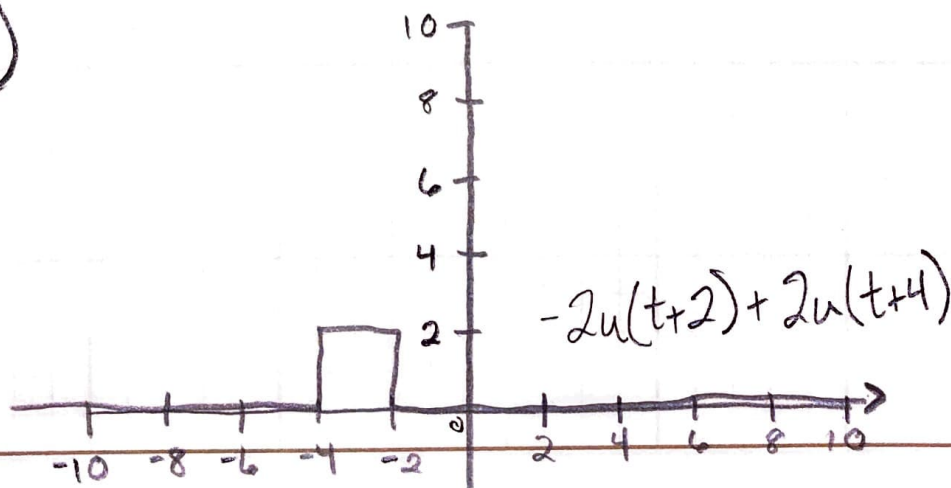
1.21)

a.) Step $= 4u(t+1)$

~~b.)~~ Bowl $= -2u(t+2) + 2u(t-2)$

c.) Staircase up $= 2u(t) + 2u(t-2) + 2u(t-3)$

e.) Hat $= 2u(t) + 4u(t-1) - 4u(t-3) - 2u(t-4)$

1.28)

a.) $\int_{-\infty}^{\infty} t^3 \delta(t-2) dt$ $\boxed{\int_{-\infty}^{\infty} f(t) \delta(t-\tau) dt = f(\tau)}$

$\Rightarrow t^3 = f(t)$ $\tau = 2$

$\Rightarrow (2)^3 = \boxed{8}$

b.) $\int_{-\infty}^{\infty} \cos(t) \delta(t - \pi/3) dt$

$\Rightarrow f(t) = \cos(t)$ $\tau = \pi/3$

$\Rightarrow \cos(\pi/3)$ $\boxed{= \frac{1}{2} \text{ rad}}$ or $\approx \boxed{1 \text{ deg}}$