

$$3.9) X(s) = \frac{4s^2 + 28s + 40}{s(s+3)(s+4)} \Rightarrow \frac{4s^2 + 28s + 40}{s^3 + 7s^2 + 12s}$$

$$x(0^+) = \lim_{s \rightarrow \infty} sX(s)$$

$$= \frac{4s^3 + 28s^2 + 40s}{s^3 + 7s^2 + 12s} = \frac{4 + 28 + 40}{1 + 7 + 12} = \frac{72}{20}$$

$$= \boxed{\frac{18}{5}}$$

$$x(\infty) = \lim_{s \rightarrow 0} sX(s)$$

$$= \frac{4s^3 + 28s^2 + 40s}{s^3 + 7s^2 + 12s} = \boxed{\frac{18}{5}}$$

$$3.10) X(s) = \frac{s^2 + 4}{2s^3 + 4s^2 + 10s}$$

$$x(0^+) = \lim_{s \rightarrow \infty} sX(s) = \frac{1s^3 + 4s}{2s^3 + 4s^2 + 10s} = \frac{1}{2} = \boxed{\frac{1}{2}}$$

$$x(\infty) = \lim_{s \rightarrow 0} sX(s) = \frac{1s^3 + 4s}{2s^3 + 4s^2 + 10s} = \frac{4}{10} = \frac{2}{5}$$

$$\Rightarrow \boxed{\frac{2}{5}}$$