3. (~~Ex~~ Exercise 2.11 in Cryer & Chan) Suppose $Cov(X_t, X_{t+k}) = \gamma_k$, which is free of t, but that $E(X_t) = 3t$.

(a) Is the process $\{X_t\}$ stationary?

No. μ_t depends on t.

(b). Let $Y_t = 7 - 3t + X_t$. Is $\{Y_t\}$ stationary?

1. $\mu_t = E(7 - 3t + X_t) = 7 - 3t + 3t = 7$ ✓
2. $Cov(X_t, X_{t+k}) = \gamma_k$, which is free of t (given) ✓

$\Rightarrow$ Yes.