7. Given that $k \in \mathbb{Z}^{+}$
(a) show that $\int_{k}^{3 k} \frac{2}{(3 x-k)} \mathrm{d} x$ is independent of $k$,
(b) show that $\int_{k}^{2 k} \frac{2}{(2 x-k)^{2}} \mathrm{~d} x$ is inversely proportional to $k$.
