7. Given that $k \in \mathbb{Z}^+$

(a) show that $\displaystyle\int_{k}^{3k} \frac{2}{(3x - k)} \, dx$ is independent of k,

(4)

(b) show that $\displaystyle\int_{k}^{2k} \frac{2}{(2x - k)^2} \, dx$ is inversely proportional to k.

(3)