7. Given that 
$$k \in \mathbb{Z}^+$$
(a) show that  $\int_k^{3k} \frac{2}{(3x-k)} dx$  is independent of  $k$ ,

(4)

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