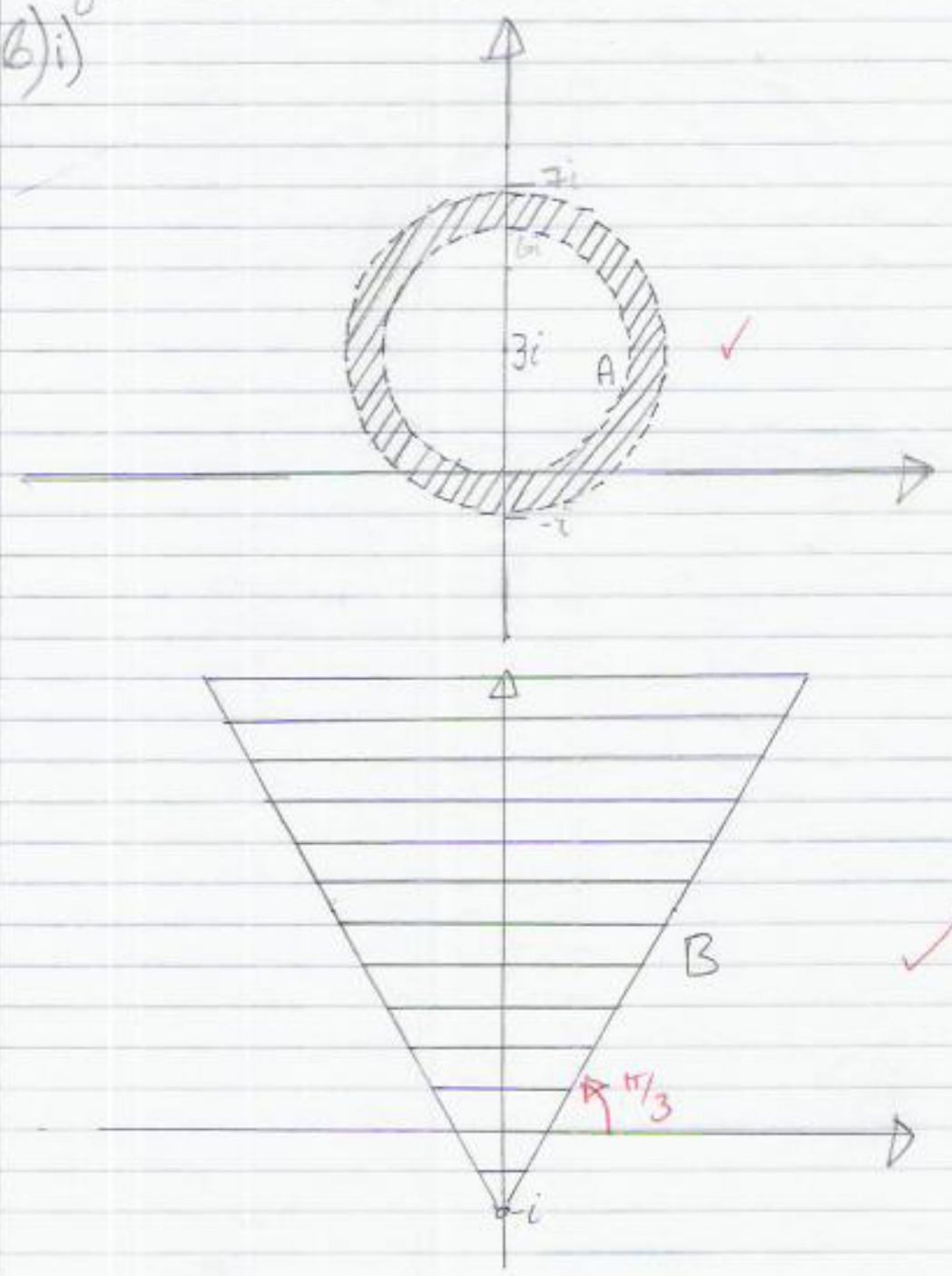
iv) w^n real when $\text{Arg}(w^n) = k\pi$, $k \in \mathbb{N}$.
$\text{Arg } w = 5\pi/6$, and $\text{Arg}(w^n) = n\,\text{Arg } w$
so $n \times 5\pi/6 = k\pi$
ie $5n/6 = k \Rightarrow 6 \mid n$, when $n = 6$.
$k = 5$ so, minimum value of
n for which w^n is real is $n = 6$. ✓

1A

6) i)



✓

✓