(1).

(i). Here $\sum_a \nabla \pi_\theta(s,a) \cdot \max_a Q^\pi(s,a)$

Take $y(s) = \max_a Q^\pi(s,a) \quad \forall s.$

$\Rightarrow \sum_a \nabla \pi_\theta(s,a) \cdot y(s) = y(s) \cdot \nabla(1) \cdot = 0.$

$\therefore$ It's a valid baseline.

(ii). Here $\sum_a \nabla \pi_\theta(s,a) \cdot \sum_b \frac{Q^{\pi_\theta}(s,b)}{|A(s)|}$

Take $y(s) = \sum_b \frac{Q^{\pi_\theta}(s,b)}{|A(s)|}, \forall s.$ (independent of action)

$\therefore \sum_a \nabla \pi_\theta(s,a) \cdot y(s) = y(s) \nabla(1) = 0.$