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1.

1 / 1 point

Which of the following accurately describes the state-action value function $Q(s,a)$?

- ☒ It is the return if you start from state s , take action a (once), then behave optimally after that.
- ☐ It is the return if you start from state s and repeatedly take action a .
- ☐ It is the return if you start from state s and behave optimally.
- ☐ It is the immediate reward if you start from state and take action a (once).

✓ Correct

2.

1 / 1 point

You are controlling a robot that has 3 actions: \leftarrow (left), \rightarrow (right) and STOP. From a given state s , you have computed $Q(s, \leftarrow) = -10$, $Q(s, \rightarrow) = -20$, $Q(s, \text{STOP}) = 0$.

What is the optimal action to take in state s ?

- ☒ STOP
- ☐ \leftarrow (left)
- ☐ \rightarrow (right)
- ☐ Impossible to tell

✓ Correct

3.

1 / 1 point

For this problem, $\gamma = 0.25$. The diagram below shows the return and the optimal action from each state. Please compute $Q(5, \leftarrow)$.

100	25	6.25	2.5	10	40	← return
100	0	0	0	0	40	← action
1	2	3	4	5	6	← reward

$Q(5, \leftarrow) = ?$

- ☒ 0.625
- ☐ 0.391
- ☐ 1.25
- ☐ 2.5

✓ Correct

