The mail delivery robot

The robot must choose its route to pickup the mail. There is a short route and a long route. The long route is slower, but on the short route the robot might slip and fall. The robot can put on pads. This won't change the probability of an accident, but it will make it less severe if it happens. Unfortunately, the pads add weight and slow the robot down. The robot would like to pick up the mail quickly with little/no damage.

What should the robot do?

Our final decision network

	State	$U(w_i)$
$\neg P, \neg S, \neg A$	w_0 slow, no weight	6
$\neg P, \neg S, A$	w_1 impossible	
$\neg P, S, \neg A$	w_2 quick, no weight	10
$\neg P, S, A$	w_3 severe damage	0
$P, \neg S, \neg A$	w_4 slow, extra weight	4
$P, \neg S, A$	w_5 impossible	
$P, S, \neg A$	w_6 quick, extra weight	8
P, S, A	w_7 moderate damage	2

$$P(A|\neg S) = 0$$
$$P(A|S) = q$$