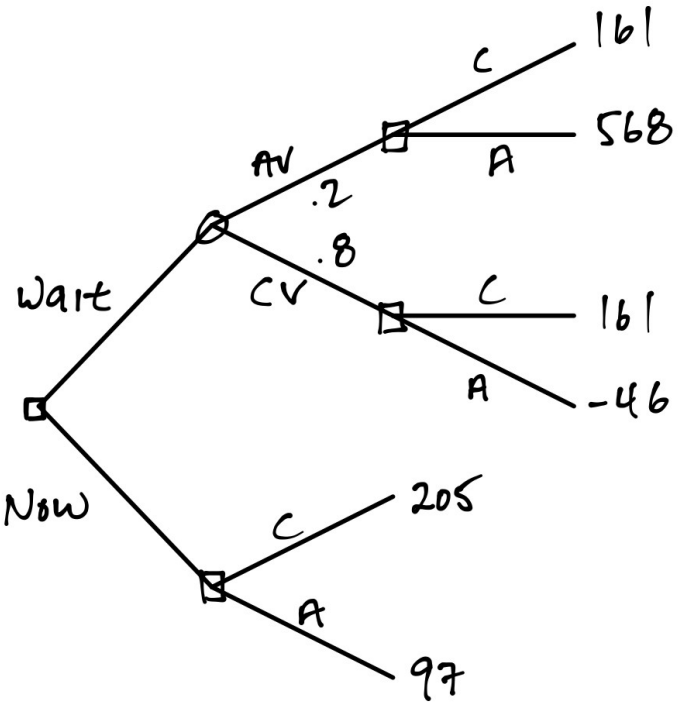
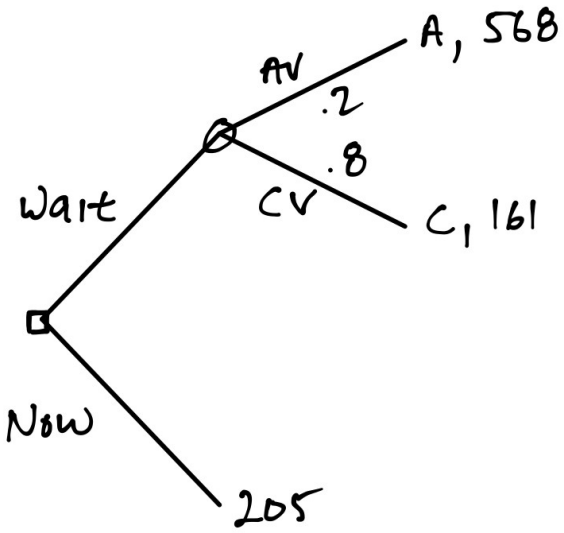
E: Option value of a street upgrade - Solution

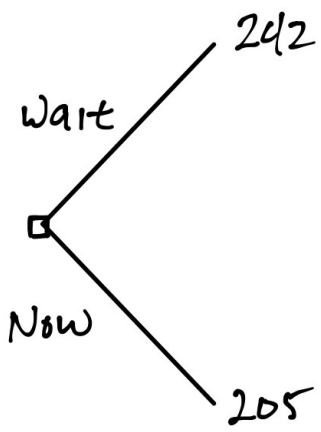
Decision tree:



Simplifying:



Taking the EV gives $242 as the value of waiting:



Step 1: Payoff if act now -- would build C:

$205

Step 2: Loss from delaying and building C in either state:

$205 - $161 = $44

Step 3: Impact of waiting and potentially exercising the option

Gain from exercising option:
$568 - $161 = $407

Expected gain from exercising (option value):
0.2*($407) = $81

Net gain:
-$44 + $81 = $37

Alternatively:
$242 - 205 = $37