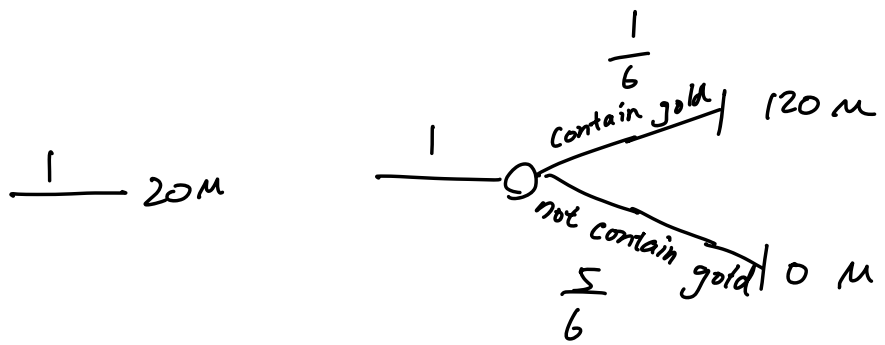
15-52 - Q3

Solution (a) ① Jack



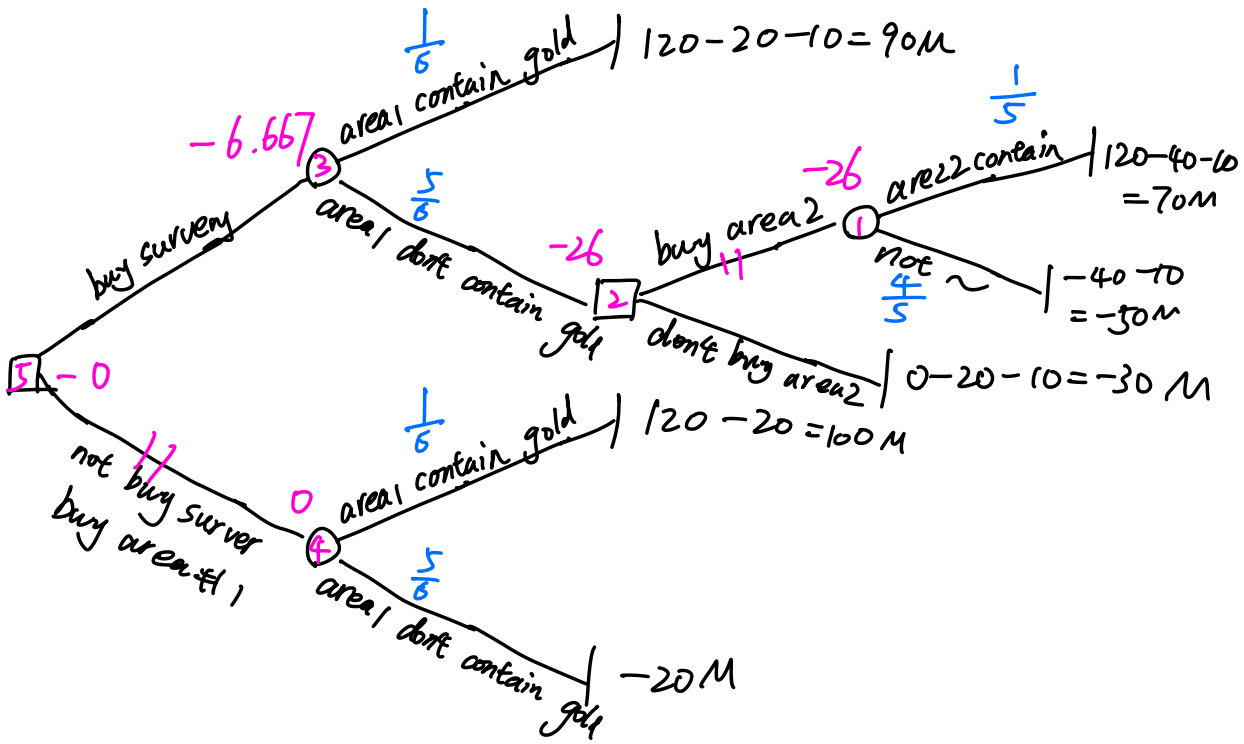
$EV(L) = \frac{1}{6} \times 120 + \frac{5}{6} \times 0 = 20\,M$

risk premium $RP(L) = EV(L) - CE(L) > 0$

risk averse $CE(L) < 20\,M$

Since Jack is a decision make, the potential high payoff outweighs the risk of loss in terms of his utility

(b) ① decision tree



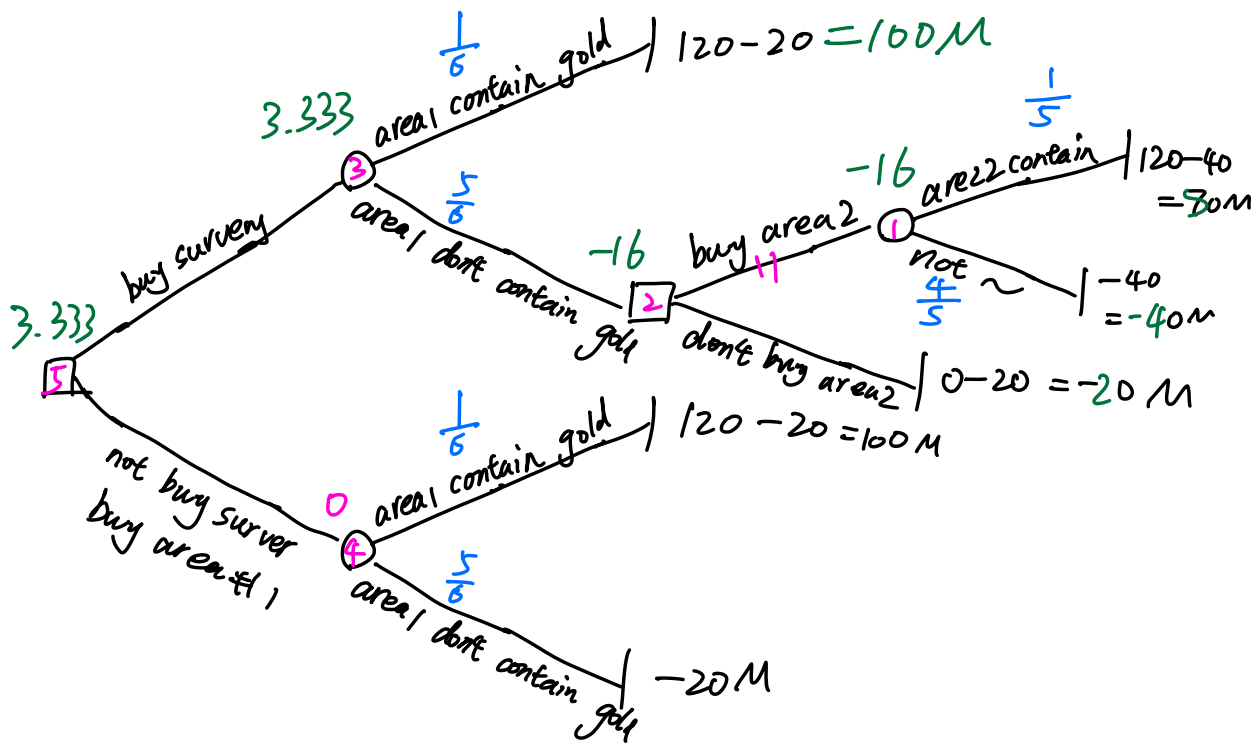
② $EVSI = EVWSI - EVWOI$

$EVWSI = 3.333$

$EVWOI = 0$

$EVSI = 3.333 < 10$

So Jack don't need this servies


5
3.333
buy survey
not buy surver
buy area #1
3
3.333
area1 contain gold
1/6
120-20=100M
area1 dont contain gold
5/6
2
-16
buy area2
dont buy area2
1
-16
area2 contain
1/5
120-40
=80M
not ~
4/5
-40
=-40M
0-20=-20M
4
0
area1 contain gold
1/6
120-20=100M
area1 dont contain gold
5/6
-20M