1 S B A G2

2 ABCD

3 A. min B. left column, 2nd row

4
A. the 2nd node has candidate labels reduced to {-}
B. all nodes get their correct label

5
A. x converge to 0 the minimum
B. x diverges

6 A

7 (top down, left to right) 5.5, 5.5, -1, 2, 7

8
3 2
1 1

9 0.5

10 two remaining cells on the 3rd row: (8,6), (5,6)

11 7

12 Same as P :-) Q

13
A. {x/A, y/right(A)}
B. {x/y, y/A, z/right(A)}
C. fail

14 prune two branches: that to -2 and to 2. root=1.

15
KB=>CNF:
1. ~P v Q
2. R
3. ~Q
Negate query
4. ~R v P
Add 4 to KB, resolve:
2, 4 => 5. P
5, 1 => 6. Q
6, 3 => false

16
1. V(I,Duck,Tele)^L(I,Park)
2. V(I,Duck,Tele)^L(Duck,Park)
3. \exist x: V(I,Duck,x)^L(I,Park)^L(Tele,Park)
4. \exist x: V(I,Duck,x)^L(Duck,Park)^L(Tele,Park)
5. V(I,Duck,Tele)^L(I,Park)^L(Duck,Park)
We can introduce another predicate Cut(x,y,z): x cuts(using a sawing motion) y with tool z
Then one can replace all V() with Cut() for more interpretations.

17. This is DFS and it will loop forever.

18. Show that the KB entails empty.

19. C.
o--(1)-->o--(-1)-->o--(2)-->o is OK
a loop with negative edge weight is not fine

20
A. strict dominating strategy: (work, work)
B. if A,B communicate, they can agree on (slack, slack)
C. you can change the outcome matrix, e.g. let (slack, slack)=-1 (cut off their communication is not a good idea :-)