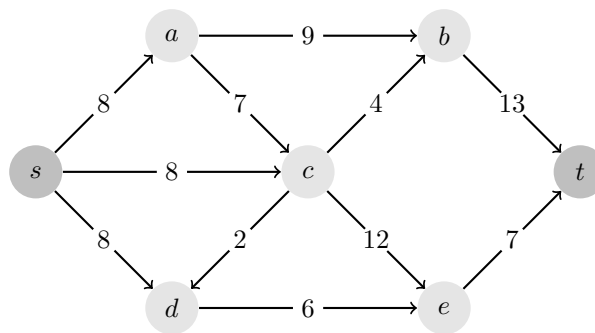


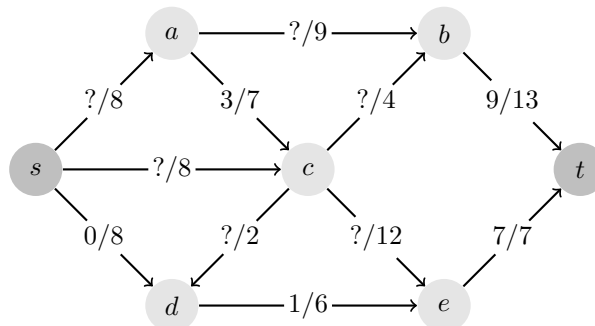
For the exercise sessions on 07 May 2026.

## Exercise S11.1 – Flows

Consider the following network  $N$ . The number at each edge represents its capacity.



(a) Fill in the missing values so that they form a feasible (not necessarily maximum) flow:



- (b) Construct the residual network (“Restnetzwerk”).
- (c) Find an augmenting  $s$ - $t$ -path and augment the flow along this path. If necessary, repeat this step until you have found a maximum flow.
- (d) Prove that your flow is a maximum flow by finding a minimum cut in  $N$ .