[nex92] **Random train connections**

Trains X and Y reach a station at random and independently of each other between 8:00am and 8:20am. Train X stops for 4 minutes and train Y for 5 minutes.

(a) Find the probability that train X arrives before train Y.

(b) Find the probability that the two trains meet at the station.

(c) Find the probability that train Y pulls into the station while train X is already there.