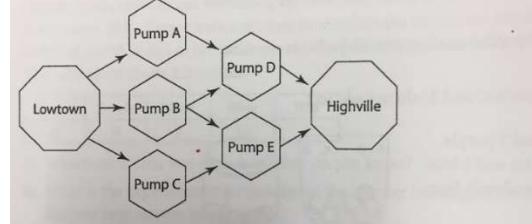


3. A survey shows that the probability of residents in Burnaby subscribing to the Burnaby NOW local newspaper is 25%, the Vancouver Sun is $1/6$, and to the Globe and Mail is $1/12$. What is the probability that they subscribe to the Vancouver Sun only? (3marks)

Challenging Problem from Cheong 5 Pump Stations:

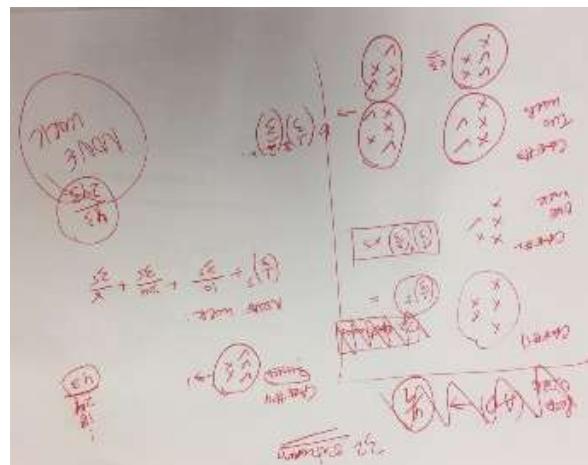
Question: What is the probability that atleast one of the pathways to pump water from Lowtown to Highville works?

✓ **Competency Check** The diagram shows 5 water pumping stations between Lowtown and Highville. Water is pumped from Lowtown to Highville through pipes that are connected to the pumping stations as illustrated. With the pumps getting old, the likelihood that a specific pumping station is working at any given time is $\frac{2}{3}$.



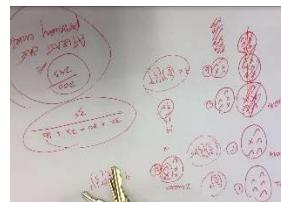
Note: Remember that it's the pump that matters, not the pathways. If a pump doesn't work, then the arrows pointing to that pump will not work for sure.

Solution:



There are 32 outcomes: List all the cases where it

wouldn't work: $\frac{43}{243}$



These are the outcomes where atleast one pathway will work: $\frac{200}{243}$