1. Consider the following hypothetical trade study for three potential UAV system options for search and rescue where you would like the UAV to be able to search for as long as practical. Through pair-wise comparison, you establish that "Payload Capacity" and "Programming Ease" are equally valued and are valued twice as much as either "Cost" or "Flight time" which are also equally valued. Establish the Weighting Factors for each metric (remember, they must sum to one!), then use a decision matrix to rank the three options. For "Programming Ease", 1 is the most difficult and 5 is the easiest.

Raw data

	Cost	**Payload**	**Programming Ease**	**Flight time**
UAV 1	\$4,300	750g	3	60 min
UAV 2	\$2,500	750g	5	45 min
UAV 3	\$1,900	500g	4	30 min

Normalized scores

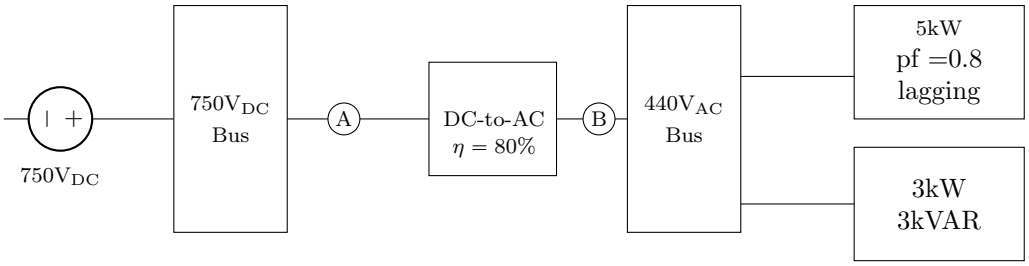
	Cost	**Payload**	**Programming Ease**	**Flight time**
UAV 1				
UAV 2				
UAV 3				

Weighted scores

	Cost	**Payload**	**Programming Ease**	**Flight time**	**Total**
Weight					
UAV 1					
UAV 2					
UAV 3					

Optimal choice = ____

2. Given the following section of a power system, choose rated values for circuit breakers A and B.



A =

B =