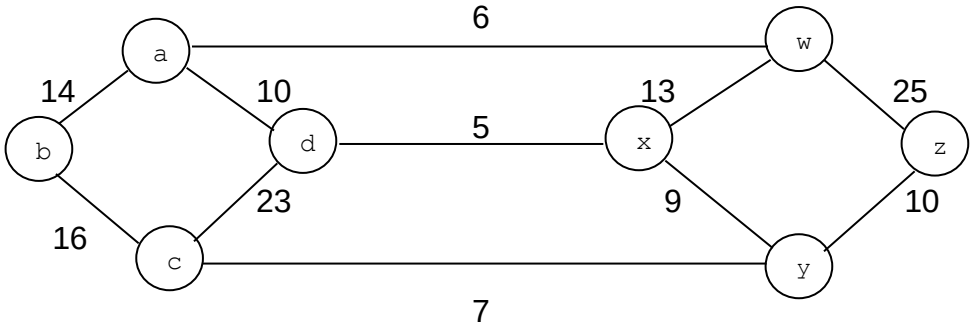
10. Prim's, Kruskal's, and Dijkstra's Algorithm

Given the following graph (the same graph from the previous problem, including the edge weights)



Use Prim's algorithm to generate a MCST. Start at vertex x.
x – d = 5
x – y = 9
y – c = 7
y – z = 10
d – a = 10
a – w = 6
c – b = 16
= 63
Use Kruskal's algorithm to generate a MCST.
d – x = 5
a – w = 6
c – y = 7
x – y = 9
y – z = 10
a – d = 10
a – b = 16
= 63

Use Dijkstra's Algorithm to find the shortest path from node *a* to the other nodes in the graph. A table is provided below (the first cell has been filled in):

V	a	b	c	d	w	x	y	z
a	0 $_{a}$	14a	Inf.	10a	6a	Inf.	Inf.	Inf.
w		14a	Inf.	10a	6a	18w	Inf.	31w
d		14a	Inf.	10a		18w	Inf.	31w
b		14a	33a			18w	Inf.	31w
x			30b			18w	27x	31w
y			30b				27x	31w
c			30b					31w
								31w