Exercise Number: 6.2.5

In this problem we are required to fill in the given table related to cache memories/specs. It is quite simple once the relation $C = S \times B \times E$ is recalled, as well as $t = m - s - b$.

Cache	m	C	B	E	S	t	s	b
1	32	1024	4	4	64	24	6	2
2	32	1024	4	256	1	30	0	2
3	32	1024	8	1	128	22	7	3
4	32	1024	8	128	1	29	0	3
5	32	1024	32	1	32	22	5	5
6	32	1024	32	4	8	24	3	5

Discussion.

A few things to recognize here, primarily the general pattern/cost of increasing one aspect of the cache and its influence on another aspects.

In all cases above, the cache is a fixed size

Also in general there are quite a few tag bits. The larger the number of tag bits, the greater the disparity between the size of the cache and the size of main memory (or whatever the lower level is that it's calling from).