1. In the following diagram of a 4-way set-associative cache with 32 blocks, highlight the areas of the cache where block 17 can be placed.

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31

2. Calculate the number of bits required for the *index*, *offset*, *tag* for a *direct-mapped cache* with **1024 cache lines** and **32 bytes per line**.

3. Calculate the number of bits required for the *index*, *offset*, and *tag* for a **32 KiB direct-mapped cache** with **64-byte cache lines**.

4. Calculate the number of bits required for the *index*, *offset*, and *tag* for a **32 KiB cache** with **2048 lines** that is **4-way associative**.