

Direct-mapped cache

5.3.1

The cache uses 5 bits for offset. So, the data has 2 to the fifth power = 32 bytes.
Each word equals 4 bytes, so the size is $32/4 = 8$ words.

5.3.2

the number of entries is 2 to the fifth power = 32.

5.3.3

The tag field uses 22 bits

storage = $8 \times 32 = 256$ bits (8 words)

$22 + 1 + 256 = 279$ bits for one block.

The ratio is $279/256 = 1.089$