

# 计算题型总结

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## 1. 计算cache size

### Larger Block Size

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#### ■ Assume:

- ◆ 32-bit address
- ◆ Direct mapped cache
- ◆  $2^n$  number of blocks, so  $n$  bit for index
- ◆ Block size:  $2^m$  words, so  $m$  bit for the word within the block

#### ■ Calculate:

- ◆ Size of tag field:  $32 - (n + m + 2)$
- ◆ Size of cache:  $2^n * (\text{block size} + \text{tag size} + \text{valid field size})$   
$$= 2^n * (2^m * 32 + (32 - n - m - 2) + 1)$$

## 2.