The Inode Table

				iblock 0		iblock 1		iblock 2		iblock 3		iblock 4	

Super | i-bmap | d-bmap

0	1	2	3	16	17	18	19	32	33	34	35	48	49	50	51	64	65	66	67
4	5	6	7	20	21	22	23	36	37	38	39	52	53	54	55	68	69	70	71
8	9	10	11	24	25	26	27	40	41	42	43	56	57	58	59	72	73	74	75
12	13	14	15	28	29	30	31	44	45	46	47	60	61	62	63	76	77	78	79

0KB   4KB   8KB   12KB   16KB   20KB   24KB   28KB   32KB
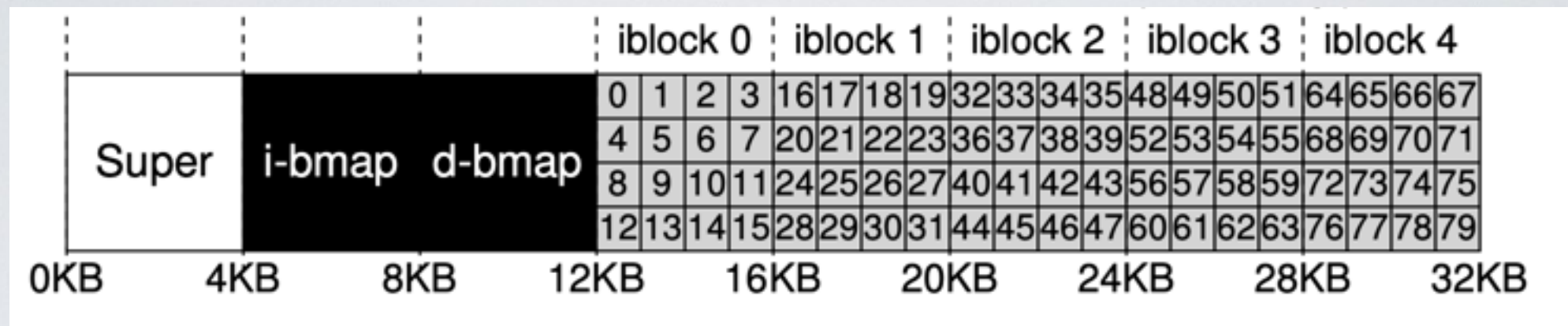
- **Physical Disk capacity in our example** (64 blocks of 4KB each)
  $4 \times 64 = 256$ KB

- **Logical capacity (8 blocks are reserved for the inode table)**
  $4 \times 56 = 224$ KB (the actual data storage space)

- **Maximum number of inodes** (each inode is 256 bytes)
  $(5 * 4 * 1024) / 256 = 80$ inodes (i.e max number of files)

- **Size of the inode bitmap** (1 bit per inode)
  1×80 inodes $= 80$ bits (out of 32K bits)

- **Size of the data bitmap** (1 bit per storage block)
  1 bit $\times 56$ blocks $= 56$ bits (out of 32K bits, max data storage 128 MB)

Decoding inodes

			iblock 0	iblock 1	iblock 2	iblock 3	iblock 4
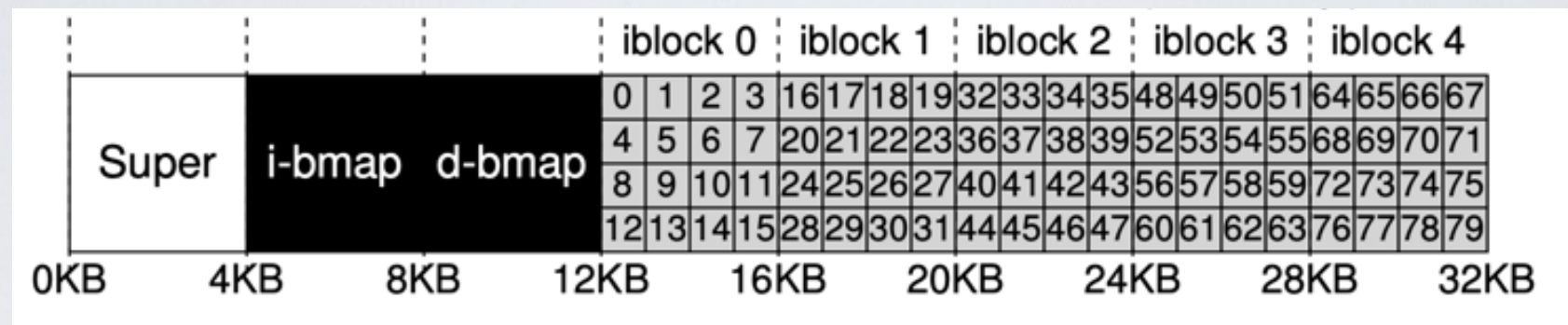
What disk sector to read to retrieve inode 32?

1. Calculate the offset (each inode is 256 bytes)
   $32 \times 256 = 8{,}192$

2. Add the start of the address of the inode table (12K)
   $8{,}192 + 12 \times 1{,}024 = 20{,}480$ (20 KB)

3. Find the corresponding disk sector (each sector is 512 bytes)
   $(20 \times 1{,}024) / 512 = 40$