Evaluate the following expressions assuming 32 bit integers and 32 bit pointers. Variables are declared as listed but after some unknown number of operations the current state of the memory is given by the supplied memory diagram.

```
struct my_vector
{
        int size;
        int capacity;
        int* data;
};
typedef struct my_vector My_vector;
My_vector v; 12 bytes
My_vector* p; 4 bytes
```

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Variable Name / Address	Memory Value	
v 8000	3	v.size
8004	4	v.capacity
8008	9004	v.data, contains 9004 as an address
p 8012	9028	
8016	10000	
8020	9020	
...	...	
9000	42	
9004	63	v.data[0]
9008	5	v.data[1]
9012	100	v.data[2]
9016	87	p->data[0]
9020	14	p->data[1]
9024	101	p->data[2]
9028	2	p->size p->data[3]
9032	3	p->capacity
9036	9016	p->data

• instant variable access
-> pointers

1. v.data 9004
2. v.data[2] >> 2 100 >>2 = 100/4 = 25
3. &p p 8012 [9028] address of p = 8012
4. p->data[3] % 5 2 % 5 = 2
5. (*p).size 2 p 8012 [9028] → 9028 [2]