

$X_4$
$X_1$
$X_{n-2}$
$X_{n-1}$
$X_2$
$X_3$

a. Before the reference to  $X_n$

$X_4$
$X_1$
$X_{n-2}$
$X_{n-1}$
$X_2$
$X_n$
$X_3$

b. After the reference to  $X_n$

**FIGURE 5.7** The cache just before and just after a reference to a word  $X_n$  that is not initially in the cache. This reference causes a miss that forces the cache to fetch  $X_n$  from memory and insert it into the cache.