(a) The code for the member function `Half()` is given below:

```
template<class type>
LinearList<T>& LinearList<type>::Half()
{// Save element[i], for i = 0, 2, 4, ...
 // Compact saved elements.
   for (int i = 2; i < length; i += 2)
      element[i/2] = element[i];
   length = (length + 1)/2;
   return *this;
}
```

(b) The `for` loop iterates $\Theta($`length`$)$ times and each iteration takes $\Theta(1)$ time. The remaining lines take $\Theta(1)$ time. So the overall complexity is $\Theta($`length`$)$.

(c) The codes and test program are in the files `clist.h` and `half.*`.