[Math 4300]

[Passing by Pointer]

Instead of passing by reference, we can use pointers to update variables in main. We can do this by passing the address of the variable into the function and using pointers in the function definition.

```
#include<iostream>

void updateVariable(int* pX) {
    (*pX) += 5;
}

int main() {
    int x = 7;
    updateVariable(&x);
    std::cout<<x <<std::endl;
    return 0;
}</pre>
```

in this code, we are passing the address of **x** as the argument instead of the variable. The function will then expect an address, this is why we use a pointer in the function definition instead of an integer variable. When we create **int* pX** we are creating a new pointer called **pX** and making it point to the memory location of **x**. When we increase the integer in this memory location by five in the function, the stored integer in **x** now becomes 12, thus the program will print 12 when we "cout<<x" in main.