

## Worksheet 12 Functions II Questions

Show what will be printed by each of the following programs.

```
1. #include <iostream.h>
void doglobal();
void dolocal();
void doref(int&);
void doval(int);
int x;
int main()
{
    x = 15;
    doref(x);
    cout << "x = " << x << " after the call to doref\n";
    x = 16;
    doval(x);
    cout << "x = " << x << " after the call to doval\n";
    x = 17;
    dolocal();
    cout << "x = " << x << " after the call to dolocal\n";
    x = 18;
    doglobal();
    cout << "x = " << x << " after the call to doglobal\n";
    return 0;
}
void doref(int& a)
{
    a = 3;
}
void doval(int b)
{
    b = 4;
}
void dolocal()
{
    int x;
    x = 5;
}
void doglobal()
{
    x = 7;
}
```

```

2. #include <iostream.h>
int num = 10;
void one();
void two(int);
void three();
void four(int&);
void five(int&);
int main()
{
    int num = 1;
    cout << "At start of main num = " << num << endl;
    one();
    cout << "After call to one num = " << num << endl;
    two(num);
    cout << "After call to two num = " << num << endl;
    three();
    cout << "After call to three num = " << num << endl;
    four(num);
    cout << "After call to four num = " << num << endl;
    two(num);
    cout << "After call to two num = " << num << endl;
    one();
    cout << "After call to one num = " << num << endl;
    five(num);
    cout << "After call to five num = " << num << endl;
    one();
    cout << "After call to one num " << num << endl;
}
void one()
{
    cout << " At the start of one num = " << num << endl;
    num = 50;
    cout << " At the end of one num = " << num << endl;
}
void two(int num)
{
    cout << " At the start of two num = " << num << endl;
    num = 5;
    cout << " At the end of two num = " << num << endl;
}
void three()
{
    int num = 100;
    cout << " At the start of three num = " << num << endl;
    num = 200;
    cout << " At the end of three num = " << num << endl;
}
void four(int& num)
{
    cout << " At the start of four num = " << num << endl;
    num = 25;
    cout << " At the end of four num = " << num << endl;
}
void five(int& i)
{
    cout << " At the start of five num = " << num << endl;
}

```

```
num = 2;
i = 3;
cout << " At the end of five num = " << num << endl;
}
```

```
3. #include <iostream.h>
void triple(int);
int main(void)
{
    int x;
    for (x = 1; x <= 5; x++)
        triple(x);
}

void triple(int value)
{
    static int total = 0;
    int answer;
    answer = 3 * value;
    total += answer;
    cout << value << ' ' << answer << endl;
    cout << "total " << total
        << endl << endl;
}
```