NAME: _____

```
int i = 1;
while (i < 128)
{
    cout << i + 1 << " ";
    i = 2 * i;
}
```

Figure 1

1) When the code in Figure 1 runs, what does it output to the console? (20 points)

```
int n = -1;
int k = n++ * 3;
cout << ++n * 10 + k;
```

Figure 2

2) When the code in Figure 2 runs, what does it output to the console? (20 points)

3) Suppose that *time* is an integer variable. Write code that prints "short" when *time* is less than or equal to 14 and “long” when *time* is greater than 14. (20 points)

```
int k = 601;
int n = 2;
for (int i = 0; i < k; ++i)
{
    n = n + 1;
}
cout << n;
```

Figure 3

4) When the code in Figure 3 runs, what does it print? (20 points)

```
int i = -1;
while (i < 6000)
{
    i = i + 200;
}
cout << i;
```

Figure 4

5) When the code in Figure 4 runs, what does it output to the console? (20 points)

```
int i = 2;
double x = 1.4;
int j = i * x;
x = i * j;
x = x * .3;
cout << x;
```

Figure 5

6) When the code in Figure 5 runs, what does it output to the console? (20 points)

```
int i = 2;
for (int k = 0; k < 200; ++k)
{
    i = i + 3.5;
}
cout << i;
```

Figure 6

7) When the code in Figure 6 runs, what does it output to the console? (20 points)

```
int k = 1000;
for (int i = 0; i <= k; ++i)
{
     if (i % 2 == 0) cout << "X";
}
```

Figure 7

8) How many times does the code in Figure 7 print the letter X? (20 points)

9) Write C++ code that computes the sum of integers between 100 and 1000. (20 points)

10) Write code that prints 100 random integers that are less than 1000. (20 points)