

NAME: _____

```
int i = 3;
while (i < 27) {
    cout << i + 1 << " ";
    i = 3 * 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 * 4 + k;
```

Figure 2

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

3) Suppose that t is an integer variable. Write code that prints "cool" when t is greater than 40 and less than 60, and prints "warm" when t is greater than 60 and less than 85. For all other values for t , print "don't go outside". (20 points)

```
int n = 10;
for (int i = 0; i < 40; ++i) {
    n = n + 3;
}
cout << n + 2;
```

Figure 3

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

```
int i = 5;
while (i > 0) {
    i = i - 2;
}
cout << i;
```

Figure 4

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

```
cout << 1 / 3 + 1 / 3.0 << endl;
```

Figure 5

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

```
int i = 4;
for (int k = 0; k < 300; ++k) {
    i = i + 3;
}
cout << i;
```

Figure 6

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

8) Write code that prints 220 random integers that are less than 200. (20 points)

9) Suppose that n is an integer greater than 1. Write code that determines whether n is prime. The program should print “prime” when n is prime and “not prime” when n is not prime. (20 points)

- 10) Show the Unix command to display your current location in the file system. (5 points)
- 11) Show the Unix command to change the current directory to a folder named *sam* located in your home directory. (5 points)
- 12) Suppose that you have a file named *main.cpp* that is in a folder in your home directory. Suppose that this folder is your current directory. Show the Unix command to copy *main.cpp* to your home directory. (5 points)
- 13) Show the Unix command to list the contents of a folder in your home directory named *lab1*. (5 points)

EXTRA CREDIT (20 points)

Write code that prints a thousand random integers that are even, greater than 30 and less than 99.