Exercise Solutions:

1) For the following values, what data type does a variable need to be in order to store them?

<table>
<thead>
<tr>
<th>Value</th>
<th>Data Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>true</td>
<td>boolean</td>
</tr>
<tr>
<td>color(0,0,255)</td>
<td>color</td>
</tr>
<tr>
<td>42</td>
<td>int or float</td>
</tr>
<tr>
<td>2.71</td>
<td>float</td>
</tr>
</tbody>
</table>

2) Write out a Processing statement below to declare and initialize a variable that holds our course number (120). Make sure that you give it an intuitive and legal variable name.

One example: int classNum = 120;

3) Describe what will be drawn when the following Processing program is run:

```java
int i = 10;
int j = i * 3/2;
color c = color(255,0,0);
i = i + j;
fill(c);
noStroke();
rect(i, j, 30, 30);
```

A 30x30 red square with top-left corner at (25, 15) and no outline.

4) Complete the program below that draws an isosceles triangle with the top point at (topX, topY) no matter what we initialize the following variables to (note that declaring multiple variables on one line, as shown here, does work as long as they are the same data type):

```java
int h = 60, b = 60;
int topX = 100, topY = 100;

triangle(topX, topY, topX - b / 2, topY + h, topX + b / 2, topY + h);
```

5) Complete the commands described below for float x and float y using the min() and max() functions.

// increases x in increments of 2, but stops at 120
x = ___min(x + 2, 120)__________;

// decreases y in increments of 3.5, but stops at -1
y = ___max(y - 3.5, -1)__________;

6) Go to the course website and get started on the homework titled “Lego Family.” [individual]