AP Computer Science Principles
Ticket Out the Door
Set 19: Variables and User Input

Name _____ Period _____

Skill 19.01 Exercise 1
What is the purpose of variables in computer programs?

Skill 19.02 Exercise 1
You want to create a number guessing game. When the game loads, a secret number will be generated. Then the user will be provided 3 guesses to identify the number. What variables would you need to store the necessary data for the game?
For each variable, write statements to show how you would declare and/or initialize the variable

Skill 19.03 Exercise 1

Indicate whether each of the following variable declarations are legal or illegal. If it is illegal, indicate why.

code	legal/illegal
var 1231abc;	
var big-number;	
var name2;	
var myVar*2;	
2 = var myNum;	
var var;	

Skill 19.04 Exercise 1

For each of the following indicate what is printed as the output. If an error occurs, indicate the error.

Code	Output
``` var x = 10 var y = x x = y console.log(y) ```	
``` var x = y = z = 5 console.log(x) console.log(y) console.log(z) ```	
``` var a = 5 console.log(a) var b = 10 console.log(b) var c = a console.log(c) a = b b = c console.log(a) console.log(B) ```	

``
var score = 10;
var score = 5;
var score = 11;
console.log(score)
``	

Skill 19.05 Exercise 1

Indicate what is printed for each of the following. If an error occurs, indicate the error and why.

``` var x = 2 var y = 3 var z = x + y x = x + z console.log(x+1) ```	
``` var x = 1 var y = 5 var z = x - y x = x - z console.log(x-1) ```	
``` var x = 2 var y = 3 var z = x ** y x = x * z console.log(x*2) ```	

```
var x = 9
var y = 3
var z = x/y
x = x/z
print(x/3)
```

```
var x = 11
var y = 3
var z = x%y
x = x%z
print(x%2)
```

Skill 19.06 Exercise 1
What type of data is stored in each of the variables below?

`var a = 10;`	
`var b = "hello!";`	
`var x = "5" + "5";`	
`var z = 5 * 5 + "2"`	
`var c = true;`	
`var d = [1, 2, 3, 4, 5]`	
`var e = 3.14;`	

Skill 19.07 Exercise 1

Write code to
(a) Concatenate two strings 'Hello' and 'World' inside a console.log statement
(b) Concatenate the strings 'Hello' and 'World' inside a console.log statement, but make sure to use string concatenation to also include a space (' ') between the two words.

Skill 19.08 Exercise 1

Indicate the output of the following

```console.log(" Blah "+ 5+10 + " Blah Blah " + 5+10);```	
```console.log(5*10 + " Blah Blah " + 5*10);```	
```console.log(" Blah "+ 10-5 + " Blah Blah " + 10-5);```	

Skill 19.08 Exercise 2

Re-write the code segments below so that they calculate the arithmetic operations

```console.log(" Blah "+ 5+10 + " Blah Blah " + 5+10);```

```console.log(5*10 + " Blah Blah " + 5*10 - 10);```

```console.log("Blah" + 2/5 + "blah" + 8/2 - 1)```

Skill 19.08 Exercise 3

Does the code below work as intended? Why or why not?

```var x = "5";```
```var y = "5";```
```console.log(x + y - 10);```	

Skill 19.09 Exercise 1

Write code prompt a user for two numbers. Assign the numbers to the variables num1 and num2.
Log the following message to the user, "The difference is [*indicate the value of the num2 – num1*]"

Skill 19.10 Exercise 1

Re-write the following in pseudocode,

```
var x = y = z = 5
console.log(x)
console.log(y)
console.log(z)
```