

1. What is the return value of this function when the parameter x has the value of 3?

```
function func(x)
{
  if (x < 2)
  {
    return x*2;
  }
  else if (x > 4)
  {
    return x*4;
  }
  else
  {
    return x*3;
  }
}
```

2. If the temperature is stored in the variable temp and wearCoat() results in wearing a coat, which conditional corresponds to the following statement: "if the temperature is greater than 30 and not warmer than 50, wear a coat".

- ```
if (temp > 30 && temp <= 50)
{
  wearCoat();
}
```
- ```
if (temp > 30 || temp <= 50)
{
  wearCoat();
}
```
- ```
if (temp > 30 && temp < 50)
{
  wearCoat();
}
```
- ```
if (temp > 30 || temp < 50)
{
  wearCoat();
}
```

3. Which conditional does not contain an error in the code?

- ```
if (x = 50)
```
- ```
if (x != 40)
```
- ```
if (x > 40 || x < 20)
```
- ```
if (x > 20 & > 30)
```

4. What is the return value of the following code?

```
function func()
{
  var x = 1;
  if (x < 3)
  {
    x += 2;
  }
  if (x < 6)
  {
    x += 4;
  }
  else if (x < 8)
  {
    x += 8;
  }
  if (x > 5)
  {
    x += 1;
  }

  return x;
}
```

5. Write a function that translates a numeric grade (stored as a number in the grade parameter to a function) into a letter grade where an "A" is greater than or equal to a 90, a "B" is greater than or equal to an 80, a "C" is greater than or equal to 70, and an "F" for anything below 70.
6. Consider a function that takes an array of grades, where each grade is a number between 0 and 100. Write a function to calculate the number of As that appear in the grades array, where an A is a 90 or above.
7. If the function print(value) prints the content of value to the screen, how many times does the following code print "Hello" to the screen?

```
var x = 0;
while (x < 5)
{
  print("Hello");
  x++;
}
```

8. If the function print(value) prints the content of value to the screen, how many times does the following code print "Hello" to the screen?

```
var x = 16;
while (x > 2) {
  print("Hello");
  x /= 2;
}
```



## Sample Exam Questions

Taken from Spring 2014

9. If the function `print(value)` prints the content of `value` to the screen, how many times does the following code print "Hello" to the screen?

```
var a = [1, 2];
for (var i = 0; i < a.length; i++)
{
    print("Hello");
}
```

10. If the function `print(value)` prints the content of `value` to the screen, how many times does the following code print "Hello" to the screen?

```
var a = [2, 2, 2, 2];
for (var i = 0; i < a.length; i++)
{
    print("Hello");
}
```

11. What is the value of `x` after the following code has executed?

```
var a = [2, 4, 6, 8, 10];
var x = 0;
for (var i = 0; i < a.length; i++)
{
    x += a[i];
}
```

12. What is the decimal representation of the binary number: 1110
13. What is the decimal representation of the binary number: 00011
14. The ASCII code for the letter "A" is 65, "B" is 66, "C" is 67, and so forth. What is the value of `String.fromCharCode(70)`?
15. In HTML, what two elements are required inside of the `<html>` element?
16. The JavaScript function `document.getElementById("whatever").innerHTML` changes the HTML inside the element that has the name "whatever" as the value of what attribute?
17. What is the value of `x` after the following code has executed?

```
var x = 4;
x += 3;
```



## Sample Exam Questions

Taken from Spring 2014

18. What is the value of temp after the following code has executed?

```
var k = 5;  
var m = 7;  
var z = 3;  
var temp = (m * z) + k;
```

19. What is the value of s after the following code has executed?

```
var s = "Hello";  
s += "World";  
s = "Big" + s;
```

20. What is the value of a.length given the following definition of a?

```
var a = [ [2, 3], [3, 4], [4, 5] ];
```

21. What is the value of a[1] given the following definition of a?

```
var a = ["Hello", "Champaign", "Urbana"];
```

22. The following data is in what common format?

```
product,quantity,price  
apple,10,5.50  
orange,2,1.02  
banana,6,0.53
```

23. Out of CSV, XML, HTML, and JSON formats, which format can be opened in Excel by double clicking the file (eg: without the use of an import wizard)?

24. Which of the following is not a native/basic data type in Excel?

- a. Equation
- b. String
- c. Boolean
- d. Date

25. Which of the following is an array in Excel?

- a. [A1, A2, A3, A4, A5, A6]
- b. A1:6
- c.=["one", "two"]
- d. A1:A6



## Sample Exam Questions

Taken from Spring 2014

For the next five questions, consider the following spreadsheet:

	A	B	C	D	E
1	<b>Amazon Top Ten Best Selling in "Books"; April, 10, 2014</b>				
2					
3	<b>Amazon Rank</b>	<b>Days on List</b>	<b>Week Change</b>	<b>Author</b>	<b>Title</b>
4	1	20	Equal	Michael Lewis	Flash Boys: A Wall Street Revolt
5	2	6	Up	Marina Keegan	The Opposite of Loneliness: Essays
6	3	96	Equal	Disney	Frozen Little Golden Book (Disney
7	4	844	Down	John Green	The Fault in Our Stars
8	5	163	Down	Veronica Roth	Divergent Series Complete Box Se
9	6	56	Equal	Disney	Journey to the Ice Palace (Disney F
10	7	438	Down	Veronica Roth	Divergent
11	8	839	Down	Todd Burpo	Heaven is for Real: A Little Boy's A
12	9	419	Equal	Veronica Roth	Insurgent (Divergent, Book 2) (Div
13	10	31	Down	JJ Smith	10-Day Green Smoothie Cleanse: L

26. Using a single Excel formula, write a formula to find the average number of days the top ten items have been ranked.
27. Using a single Excel formula: How many items were authored by Veronica Roth?
28. Using a single Excel formula: How many items were not authored by Disney?
29. Using a single Excel formula: What formula will display the author of the item that has been on the list the longest?
30. Using a single Excel formula: How many books have Divergent in the title on the list?

For the next five questions, consider the following spreadsheet:

	A	B	C
1	123	45	6
2	345	67	8
3	567	89	0

31. If the cell B2 was copied and pasted in D2, what would appear in the cell D2?
32. If the formula =B2 is inserted in D2, what would Excel show as the value in D2?
33. If the formula =B\$2 is inserted in D2 and then D2 is copied and pasted into E3, what would Excel show as the value in D2?
34. What is the value of =INDEX(A:A, 2)?
35. What is the value of =SUM(B1:C2)?

For the next two questions, consider the following Excel workbook that contains three sheets for the next two questions.

The first sheet, **Overview**, is blank. This sheet will be used for you to write your answers in for this question set.

The second sheet, **Unemployment**, lists the long term unemployment of several Western European countries:

	A	B	C	D	E	F	G	H	I	J	K
1		<u>2011Q1</u>	<u>2011Q2</u>	<u>2011Q3</u>	<u>2011Q4</u>	<u>2012Q1</u>	<u>2012Q2</u>	<u>2012Q3</u>	<u>2012Q4</u>	<u>2013Q1</u>	<u>2013Q2</u>
2	Denmark	1.9	2	1.7	1.8	2.2	2.1	2	2.1	1.9	1.9
3	Finland	1.8	1.7	1.7	1.8	1.8	1.7	1.5	1.6	1.8	1.6
4	France	4	3.8	4	4.1	4.1	4	4.1	4.3	4.2	4.3
5	Germany	3.2	2.9	2.8	2.6	2.7	2.5	2.5	2.3	2.5	2.4
6	Ireland	8.4	8.3	8.9	9.2	9.6	9.4	9	8.3	8.5	8.2
7	Italy	4.3	4.2	4.1	4.9	5.3	5.6	5.3	6.4	7.1	6.8
8	Norway	0.7	0.9	0.8	0.7	0.7	0.5	0.6	0.7	0.7	0.8
9	Spain	8.6	8.6	8.9	9.9	10.3	10.9	11.2	12.2	12.8	13
10	Sweden	1.7	1.5	1.4	1.4	1.6	1.5	1.4	1.5	1.5	1.5
11	United Kingdom	2.7	2.6	2.7	2.7	2.8	2.7	2.8	2.7	2.8	2.8

The third sheet, **Population**, lists the population of these countries:

	A	B	C
1		<u>Population (July 2013)</u>	
2	Germany	81,840,000	
3	United Kingdom	64,231,000	
4	France	63,702,000	
5	Italy	61,789,000	
6	Spain	46,958,000	
7	Sweden	9,595,000	
8	Denmark	5,612,000	
9	Finland	5,436,000	
10	Norway	5,077,000	
11	Ireland	4,662,000	

36. Write a formula for the Overview sheet that displays the country with the largest population.
37. Write a formula for the Overview sheet that displays the population of the country that had the lowest long term unemployment in during the first quarter of 2012 (column F in the Unemployment sheet). Your formula must dynamically find the lowest unemployment (eg: your formula must not contain A8, "Norway", or similar).