

Note: Correct responses are based on Java, J2sdk v 6.0, from Sun Microsystems, Inc. All provided code segments are intended to be syntactically correct, unless otherwise stated (i. e. `error` is an answer choice) and any necessary Java 2 Standard Packages have been imported. Ignore any typographical errors and assume any undefined variables are defined as used.

QUESTION 1

What is the sum of 1001_8 and 1001_2 ?

- A. 1012_8 B. 111110_2 C. 40_{16} D. 1101_8 E. 513

QUESTION 2

What is output by the code to the right?

- A. 0.0 B. 9.0 C. 0.125 D. 0 E. 1.0

```
int y = 64;
int x = 8;
double z = 4;
out.println(y / x + 14 * z % 5);
```

QUESTION 3

What is output by the code to the right?

- A. 126 B. 0 C. 7 D. 90 E. 100

```
int i=0,x=0;
for(i=0;i<125;i+=2)
    x+=i;
System.out.println(i);
```

QUESTION 4

What is output by the code to the right?

- A. CITY B. LAST C. VARSITY
D. VERY E. VERSE

```
String s = "UNIVERSITY ", t="";
s += "INTERSCHOLASTIC ";
s += "LEAGUE";
t = s.substring(3,4);
t += s.substring(21,22);
t += s.substring(5,s.indexOf(" "));
System.out.print(t);
```

QUESTION 5

What is output by the code to the right?

- A. 10 B. 11.0
C. 9.0 D. 32.0
E. There is no output due to a compile error.

```
double[] a = {3 , 5 , 7 , 9 , 2};
double t = 2 + a[ a[2] / a[4] ];
System.out.println(t);
```

QUESTION 6

What is output by the code to the right?

- A. false B. true C. 0 D. 1 E. 1.0

```
double a = 2.3;
System.out.println( a % 2 < 0.5);
```

QUESTION 7

What is output by the code to the right?

- A. t B. spot
C. tops D. top
E. There is not output.

```
char x = 'A';
switch (x){
    case 65: System.out.print("t");
    case 0: System.out.print("o");
    case 1: System.out.print("p");break;
    case 115: System.out.print("s");
}
```

QUESTION 8

What is output by the code to the right?

- A. true B. false
C. 32 D. 43
E. 63

```
System.out.print( 32 | 8 | 3 );
```

<p>QUESTION 9</p> <p>What is output by the code marked // 1 with a call of special("CHIHUAHUAS")?</p> <p>A. 1 B. 2</p> <p>C. 4 D. 6</p> <p>E. There is no output due to a runtime error.</p>	<pre>public static void special(String s) { String[] t = s.split("[AEIOU]"); out.println (t.length); //1 out.println (t[2]); //2 }</pre>
<p>QUESTION 10</p> <p>What is output by the code marked // 2 with a call of special("CLOWNS")?</p> <p>A. 1 B. 2</p> <p>C. 4 D. 6</p> <p>E. There is no output due to a runtime error.</p>	
<p>QUESTION 11</p> <p>What is output by the code to the right?</p> <p>A. 3.142 B. 3.1</p> <p>C. 0003.1 D. 3.140</p> <p>E. 003.1</p>	<pre>final double PI = 3.14159265; out.printf("%06.1f", PI);</pre>
<p>QUESTION 12</p> <p>What is output by the code to the right ?</p> <p>A. 1032 B. 33</p> <p>C. 713 D. 126</p> <p>E. %s</p>	<pre>System.out.printf("%s", "1"+032);</pre>
<p>QUESTION 13</p> <p>What is returned by the method call pow(36, -2) ?</p> <p>A. 6 B. 16.0</p> <p>C. 4 D. 64.0</p> <p>E. 9</p>	<pre>public double pow(double x, double y){ x = Math.sqrt(x); y = Math.abs(y); double z = Math.max(y,x); return Math.pow(Math.min(x,y),z); }</pre>
<p>QUESTION 14</p> <p>What is output by the code to the right ?</p> <p>A. 32 B. 4.0</p> <p>C. 32.0 D. 64.0</p> <p>E. 16.0</p>	<pre>int x = 64; int y = 3; double b; b = x >> y << y-1; System.out.print(b);</pre>
<p>QUESTION 15</p> <p>What is output by the code to the right ?</p> <p>A. 100 B. 50</p> <p>C. 25 D. 10</p> <p>E. 0</p>	<pre>int sum; for(sum = 0; sum<=100; sum+=10) sum += 5; System.out.print(sum);</pre>

<p>QUESTION 16</p> <p>What is output by the code to the right marked //1?</p> <p>A. true B. false C. 0 D. 1 E. 2</p>	
<p>QUESTION 17</p> <p>What is output by the code to the right marked //2?</p> <p>A. true B. false C. 0 D. 1 E. 2</p>	<pre>Map< Integer, String > map; map = new HashMap< Integer, String >(); map.put(5, "Spades"); map.put(5, "Clubs"); map.put(5, "Diamonds"); map.put(5, "Hearts"); out.print(map.containsKey(2)); //1 out.print(map.entrySet().remove(5)); //2 out.print(map.keySet().size()); //3</pre>
<p>QUESTION 18</p> <p>What is output by the code to the right marked //3?</p> <p>A. 0 B. 1 C. 2 D. 3 E. 4</p>	
<p>QUESTION 19</p> <p>What is output by the code to the right?</p> <p>A. 0 B. 1 C. false D. true E. o</p>	<pre>boolean x=false; boolean y=true; out.println(!(x y) y&&(x y));</pre>
<p>QUESTION 20</p> <p>What is output by the code marked //1 with a call of mat(6)?</p> <p>A. 6 B. 0 C. 12 D. 5 E. 8</p>	
<p>QUESTION 21</p> <p>What is output by the code marked //2 with a call of mat(8)?</p> <p>A. 5 B. 3 C. 12 D. 0 E. 8</p>	<pre>public void mat(int r){ int[][] m = new int[r][0]; for(int c=1; c<=r; c+=3) m[c] = new int [c]; out.println(m.length); //1 out.println(m[2].length); //2 }</pre>
<p>QUESTION 22</p> <p>What is output by the code to the right marked //1?</p> <p>A. true B. false C. 0 D. 1.5 E. error</p>	<pre>ArrayList <Object> m; m = new ArrayList <Object>(); m.add(new Double("1.5")); m.add(new Integer("3")); m.add(new String("One")); out.println(m.contains("1.5")); //1 out.println(m.contains(3)); //2</pre>
<p>QUESTION 23</p> <p>What is output by the code to the right marked //2?</p> <p>A. true B. false C. 3 D. 1 E. error</p>	

<p>QUESTION 24</p> <p>What is the output if <code><*1></code> reads: <code>x.size()</code></p> <p>A. true B. false C. 19 D. 12.1 E. 14</p>	<pre>Stack <Double> x; x = new Stack<Double>(); Double i ; for(i = 3.1; i < 12.3; i+=.5) x.push(i); System.out.println(<*1>);</pre>	
<p>QUESTION 25</p> <p>What is the output if <code><*1></code> reads: <code>x.peek()</code></p> <p>A. true B. false C. 19 D. 12.1 E. 14</p>		
<p>QUESTION 26</p> <p>What is the output if <code><*1></code> reads: <code>x.pop()</code></p> <p>A. true B. false C. 19 D. 12.1 E. 14</p>		
<p>QUESTION 27</p> <p>What is output by the code to the right ?</p> <p>A. true false true B. true true true C. false false true D. true false false E. false false false</p>	<pre>String d1 = new String("3.7"); String d2 = d1; String d3 = "3.7"; out.print((d1 == d1) + " "); out.print((d2 == d3) + " "); out.println(d1.equals(d3));</pre>	
<p>QUESTION 28</p> <p>What is output by the code to the right ?</p> <p>A. 43 B. 51 C. 40 D. 240x12 E. 36</p>	<pre>int x = (13 + 013 + 0x13); System.out.println(x);</pre>	
<p>QUESTION 29</p> <p>What is output by the code to the right ?</p> <p>A. bzcxdwefvfu B. abcdefghijkl C. nopqrstuvwxyz D. anbocpdqerf E. azbycxdwefvu</p>	<pre>String s = "abcdefghijklm"; String t = "nopqrstuvwxyz"; String h=""; int x = t.length(); for (int i = 1; i<7; i++){ h+=s.substring(i,i+1); h+=t.substring(x-i,x-i+1); } out.println(h);</pre>	
<p>QUESTION 30</p> <p>What is returned by the method call <code>curve(8)</code> ?</p> <p>A. 0 B. 60 C. 80 D. 384 E. 880</p>	<pre>public static int curve(int x) { if(x<0) return 1; else return curve(x-3) * x; }</pre>	
<p>QUESTION 31</p> <p>What is returned by the method call <code>curve(11)</code> ?</p> <p>A. 0 B. 60 C. 80 D. 384 E. 880</p>		

QUESTION 32

What is the output from line marked //1?

- A. 3421
- B. 342143
- C. 4213
- D. 4321
- E. Order cannot be determined

```
ArrayList<Integer> s;
s = new ArrayList<Integer>();
Integer[] n = {3,4,2,1};
s.addAll(Arrays.asList(n));
Arrays.sort(n);
for( int a : s)
    out.print(a);          //1
s.addAll(Arrays.asList(n));
System.out.print(s); //2
```

QUESTION 33

What is the output from line marked //2?

- A. [3, 4, 2, 1, 4, 3, 2, 1]
- B. [1, 2, 3, 4]
- C. [1, 2, 3, 4, 3, 4, 2, 1]
- D. [3, 4, 2, 1]
- E. [3, 4, 2, 1, 1, 2, 3, 4]

QUESTION 34

What is the value of a[3].length?

- A. 4
- B. 5
- C. 7
- D. 15
- E. 35

```
int i, j, k;
int [][] a;
a = new int[7][7];
for(i=1; i<a.length; i++)
    for(j=1; j<a[2].length; j++)
        for(k=3; k>1; k--)
            a[i][i]= a[i][j] * a[j][i]; //1
```

QUESTION 35

How many times will the code marked with //1 be invoked?

- A. 20
- B. 80
- C. 24
- D. 60
- E. 72

QUESTION 36

How many non zero elements does matrix a contain?

- A. 0
- B. 24
- C. 30
- D. 40
- E. 49

QUESTION 37

What is output by the code to the right ?

- A. 1 5 9 13 17 21 25 29
- B. 0 1 2
- C. 29 25 21 17 13 9 5 1
- D. 3 2 1
- E. There is no output due to syntax error.

```
Set <Integer> a ;
a= new TreeSet<Integer>();
for(int x=1;x<30;x+=4){
    a.add(x % 3);
}
for(int h: a ){
    System.out.print(h+" ");
}
```

QUESTION 38

What is the value of a.size() for the code to the right ?

- A. 1
- B. 2
- C. 3
- D. 8
- E. 30

QUESTION 39

What is the output if **<*1>** is replaced with `test.someChange(someA)`?

- A. 1
- B. 2
- C. 5
- D. true
- E. false

QUESTION 40

What is the output if **<*1>** is replaced with `test.sumChange(someA)`?

- A. 1
- B. 2
- C. 5
- D. true
- E. false

```
public class A
{
    private int var;

    public A (int v){
        var=v;
    }
    public void setVar(int v){
        var=v;
    }
    public int getVar(){
        return var;
    }
}

public class B
{
    public void someChange(A type){
        type = new A(3);
        type.setVar(5);
    }

    public void sumChange(A type){
        type.setVar(5);
        type = new A(3);
    }
}

// client code
B test = new B();
A someA = new A(2);
<*1> ;
out.println(someA.getVar());
```