

Name: \_\_\_\_\_ Period: \_\_\_\_\_

1. Which of the following sets of declarations will cause an error message?

**error** ✓ I. `double x = 14.7;`  
`int y = x;` **> narrow conversion - make a double to int**

**X** II. `double x = 14.7;`  
`int y = (int) x;` **OK**

**X** III. `int x = 14;` **OK** **← widening conversion int to double**  
`double y = x;`

**error** ✓ IV. `int x = 4;`  
`double y = 3;`  
`int z = (int) x / y;`

**4/3.0 → double to int narrowing conversion**

- a. None; all options are error free
- b. I only
- c. II only
- d. II & III only
- e. I and IV only**

2. Which of the following would equal 2?

**++ = +1**  
I. `int x = 0;`  
`x ++;`  
`x += x;` **0 + 1 = 1 + 1 = 2 ✓**

**+ = is the same as**  
II. `int y = 4;`  
`y ++;`  
`y /= 2;` **4 + 1 = 5 → 5/2 = 2 integer division ✓**

**- + - = -**  
III. `int z = 4;`  
`z += 2;`  
`z /= 2;` **4 + 2 = 6 → 6/2 = 3 incorrect**

- a. I only
- b. II only
- c. III only
- d. I and II only**
- e. I, II, and III

3. If x is an double and y is a int, which statement will cause an error?

- a. y = x;** **← narrowing conversion**
- b. `x = y;` **OK**
- c. `x = (double) y;` **OK**
- d. `y = (int) x;` **OK**
- e. all of the above are legal

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4. Consider the following code segment.

```
double x = (int) (6.5 - 2.5);  
double y = (int) 6.5 - 2.5;  
System.out.println(x - y);
```

$4.0 = 4 = 4.0 \text{ (double)}$   
 $\rightarrow 6 - 2.5 = 3.5$

What is printed?

- a. -1.0
- b. -0.5
- c. 0.0
- ☒ d. 0.5
- e. 1.0

$$\begin{array}{r} 4.0 \\ - 3.5 \\ \hline 0.5 \end{array}$$

5. Which code segment will print an int?

- a. `System.out.print(7 / 1.3);`
- ☒ b. `System.out.print(99 * 9);`
- c. `System.out.print(6.0 + 31);`
- d. `System.out.print(Int);`

$\leftarrow$  both int values

6. Given the following declarations, what is the result of the following code segment?

```
int iResult, num1 = 12, num2 = 30, num3 = 17, num4 = 4;  
double fResult, val1 = 18.0, val2 = 11.28;  
iResult = (int)(num1 - num4 / num3) * val1 - val2;  
System.out.println(iResult);
```

- a. error
- b. 20
- c. 204.0
- d. 204.72

$$\begin{array}{l} (12 - 4 / 17) * 18.0 - 11.28 \\ (8 / 17) * 18.0 - 11.28 \\ 0 * 18.0 - 11.28 \\ 0 \end{array}$$

7. What is the best name/identifier for a class about test averages?

- ☒ a. Test.Average
- ☒ b. tA
- c. thisRepresentsAClassAboutTestAveragesForMyAPCSACourse
- ☒ d. TestAverage
- e. test\_average

\*

8. What is the correct main method header?

- a. `public void static main (String () args)`
- b. `public static main void (String [] args)`
- ☒ c. `public static void main (String [] args)`
- d. `public void static main [String() args]`

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9. What is the result/output of running the following line of code?

```
System.out.print("One potato, \ntwo potato");  
System.out.println(" Three potato");  
System.out.print("Four");  
System.out.println("Who's at the door?");
```

- a. One potato,  
two potato Three potato  
FourWho's at the door?
- b. One potato, two potato Three potato  
FourWho's at the door?
- c. "One potato,"  
"two potato Three potato"  
"FourWho's at the door?"
- d. One potato,  
two potato  
Three potato  
Four  
Who's at the door?
- e. None of the above; error in code

\\s  
[\\] =  
escape  
sequence  
for single  
quote

10. double db1; is an example of...

- a. Initialization
- b. Assignment
- c. Declaration
- d. Instantiation
- e. Error

double db1 = 5.0;  
~~~~~  
declaration      initialization

11. In Java, execution starts at the...

- a. main method
- b. class header
- c. Inside the first curly bracket
- d. Line 1

Write lines of code to correctly declare and initialize variables for the following types of data: student's name, grade on a test and class test average. (2 points each)

|     | Data               | code statement to <u>declare and initialize</u> the variable |
|-----|--------------------|--------------------------------------------------------------|
| #12 | Student's name     |                                                              |
| #13 | Test grade         |                                                              |
| #14 | Class test average |                                                              |

int grade = 80;  
double avg = testGrade/4;  
= 82.2;

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Use the following variable declarations to complete the table

int a = 5, b = 2, c = 20, d = 7, m ;

int r = 3, p = 0, n = 1, k = 100;

double y = 2.1, z;

final int MAX = 100;

What is the output of each of the following sets of code? Show your work.

|     | Code                                                                        | Output | Work & Explanation of answer                                                                                               |
|-----|-----------------------------------------------------------------------------|--------|----------------------------------------------------------------------------------------------------------------------------|
| #15 | <i>double</i><br>z = c % d / (double)a + (k % 3);<br>System.out.println(z); |        | $20 \% 7 / 5.0 + (100 \% 3)$<br>$20 \% 7 / 5.0 + 1$<br>$6 / 5.0 + 1$<br>$1.2 + 1 = 2.2$                                    |
| #16 | <i>int</i><br>b = y / b + a;<br>System.out.println(b);                      | error  | $2.1 / 2 + 5$<br>$1.05 + 5 = 6.05$<br><i>int not double</i>                                                                |
| #17 | <i>double</i><br>z = c / a;<br>System.out.println(y);                       | 4.0    | $20 / 5 = 4$<br><i>widening conversion</i>                                                                                 |
| #18 | System.out.println((int)y + d - (n * MAX) / r % 2 * d - 3);                 |        | $2 + 7 - (1 * 100) / 3 \% 2 * 7 - 3$<br>$2 + 7 - 100 / 3 \% 2 * 7 - 3$<br>$2 + 7 - 33 \% 2 * 7 - 3$<br>$2 + 7 - 1 * 7 - 3$ |
| #19 | m = (p - 2) - (int)(y * n);<br>System.out.println(m);                       | -4     | $2 + 7 - 7 - 3$<br>$9 - 7 - 3$<br>$2 - 3 = -1$                                                                             |
| #20 | What's your feedback on week 1? Was the pace too fast? Too slow?            |        | $(0 - 2) - (int)(2.1 * 1)$<br>$- 2 - (int) 2.1$<br>$- 2 - 2 = -4$                                                          |