

Worksheet: Review – Types and Variables

- 1a. Convert the binary value 1010_0110 to **denary**. Show your calculations.

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- 1b. Convert the binary value 1010_0110 to **hexadecimal**.

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2. Fill in the details about the Java type **int**.

a)	Number of bits used	b)	Maximum Value	c)	Minimum Value

3. Answer the questions about storing real numbers in Java.

- a) What Java type stores real numbers and is tested on the AP CSc A exam?

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- b) How much memory space is required to store this data type?

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4. What Java type can store either **true** or **false**, and no other value?

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5. Write the java statement that will **declare** a variable with the label and type specified.
Remember that Java statements are terminated with a semicolon (;).

- a) A variable labeled **myInt** of type **int**.
b) A variable labeled **myReal** of type **double**.
c) A variable labeled **isHappy** of type **boolean**.

6. Assume the variables were declared with the statements in question (5), and write the java statement that will **initialize** each variable to the value specified.

- a) Initialize **myInt** to the value **-5**.
b) Initialize **myReal** to the value **0.32**.
c) Initialize **isHappy** to the value **true**.

7. Perform the following tasks, each one using a single Java statement

- a) Declare a variable labeled **myAge** of type **int**, and initialize it to your age in years.
b) Declare a variable labeled **myHeight** of type **double** and initialize it to your height in meters.
c) Declare a variable labeled **iAmBored** of type **boolean** and initialize it to either **true** or **false**.

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8. Complete the table by giving the resulting type and value for each Java operation, and by stating whether there is a loss of precision.

	Java operation	resulting type	resulting value		Loss of precision? (Yes/No)
			Mathematical	Java	
a)	21 / 7				
b)	24 / 5				

9. Complete the table by giving the resulting value and type for each Java operation, and by stating whether there is a loss of precision.

	Java operation	resulting type	resulting value		Loss of precision? (Yes/No)
			Mathematical	Java	
a)	24 / 5.0				
b)	4 / 3.0				

10. Complete the table by giving the resulting value and type for each Java operation, and by stating whether there is a loss of precision.

	Java operation	resulting type	resulting value
a)	"Answer: " + 5		
b)	"Answer: " + 2 * 5.6		
c)	1+1+" is the answer"		
d)	1.1 + 2.2 + "3.3"		

11. List the operators of each type:

a) Arithmetic:					
b) Assignment:					
c) Comparison:					