

## Ints and Doubles

Ints and doubles are two different data types used to represent numerical values. An int represents an integer, while a double represents a decimal value. For example, an int could store a value such as 4, while a double could store a value such as 1.243. In Java, ints and doubles can be created with this code:

```
private int x = 4;  
private double y=1.243;
```

If a noninteger value is stored in an int, the value is truncated, not rounded. For example:

```
private int x=1.6;
```

In this case, x stores a value of a 1, not 2.

Operations, such as arithmetic, with only integers will always result in an integer result. Any operation which includes a double will result in a double, even if other integers are included (be careful of order of operations). For example:

```
1/2=0  
1.0/2= 0.5  
1.0/2.0=0.5
```

Now try these:

1. 4/5
2. 3.0/2
3. 4/5.0+3
4. 4.0/5+3/4
5. (5/10)\*5.0/2