2.5 Arithmetic Operations

1) Operator Precedence

In order of highest to lowest precedence

a. ( )
b. * / %
c. + -

2) Numeric Literals

ints		doubles	
3	7	3.5	7.2
12	291	5.0	72.6

3) doubles are considered to be <u>wider</u> than ints.
The datatype resulting from a numeric operation will be the datatype of the wider operand.

Examples:

Operation	Result datatype
7 * 3	int
7 * 2.7	double
3.5 - 2	double
7.2 + 8.0	double

4) The int/int problem!

int/int will result in an int. All decimals will be lost.

(over)

5) To fix the int/int problem, make one operand a double by casting.

```
int a = 5;
int b = 4;
double c = (double)a/b;
-OR-
double c = a/(double)b;
```

cast: forces a value into a new datatype

6) It is an error to move a (double) value into a (int) variable. To force it, use a cast.

```
int x = (int)(7.25/3);
```

cast: forces a double into an int (int loses the decimal places.