

1.
 - a. age, firstName, sum_of_data, _count
 - b. 123data (identifiers must begin with a letter or underscore), my variable (identifiers cannot contain any spaces), account-number (hyphen is not permitted in most identifiers), class (reserved word which has special meaning in the programming language)
2.
 - a. Declaration: `int numBeads;` Assignment: `numBeads = 5;`
 - b. `int numBeads = 5;`
3.
 - a. The final value of yourNumber is 13
 - b. The final value of yourNumber is 11
4.
 - a. Integer
 - b. Double
 - c. Integer
 - d. Double
 - e. Boolean
 - f. Char
5.
 - a. Primitive data types are the low-level, built-in data types that form the foundation of a language, while Abstract Data Types are higher-level, conceptual models that define data based on its behavior and operations, abstracting away the underlying implementation details. ADTs can be built using primitive data types or other ADTs.
 - b. A class serves as a blueprint or a template for creating objects, while an object concrete, tangible instance of a class

11.
 - a. `int j = 5; double k = 1.6; int y; double z;`

`z = j * k;`

Explanation: No explicit type casting is necessary. The multiplication `j * k` results in a double (8.0). This double can be directly assigned to the double variable `z` without any loss of precision or type mismatch. This is an example of widening conversion.

`z = k * k;`

Explanation: No explicit type casting is necessary. The multiplication `k * k` involves two double values, resulting in a double (2.56). This double can be directly assigned to the double variable `z`.

`k = j;`

Explanation: No explicit type casting is necessary. The int value `j` (5) is being assigned to a double variable `k`. The int value will be implicitly converted to a double (5.0) without any loss of data. This is an example of widening conversion.

`y = j + 3;`

Explanation: No explicit type casting is necessary. The addition `j + 3` involves two int values, resulting in an int (8). This int can be directly assigned to the int variable `y`.