Review Questions

1. You can define variables of different types in Java. List at least three types

2. What are the results of the following computations for z1, z2, z3, and z4

```
int x = 10;
int y = 6;

int z1 = x * y;
int z2 = x + y;
int z3 = x / y;
int z4 = x % y;
```

3. What are the advantages of defining and using *functions* in your program? What is a *function header*?

4. What are the names of *all* functions defined in the program below, and what input do they require:

```
public class WhoIsWho
{
   public static void driveForward(int distance)
   {  // code deleted
   }

   public static void tunBy(int angle, double speed)
    { // code deleted
   }

   public static void main(String args[])
   {  // code deleted
   }
}
```

5. What are the benefits of a 2 wheeled differential drive robot over a 4-wheeled car-like robot?

6. If a wheel with radius 4 cm rotates 180 degrees, what distance will it cover? Note that 180 degrees are π radians. How many degrees does that wheel have to rotate to cover 25 cm?

7. Suppose a differential drive robot has the *left* motor attached to motor port A and the *right* motor attached to port C. Describe the way the robot moves if you issue the commands:

```
Motor.A.rotate(-720, true);
Motor.C.rotate(720, false);
```

8. What are "state variables, and where in a program are they defined?