MA/CSC 580 PROJECT 1 Name: _____ Due 9/7

1. Select a specific floating-pont number system $F(\beta, t, m, M$ and represent the numbers $\frac{1}{2}, \frac{2}{3}$ and $\frac{3}{5}$ in that system. Use an appropriate notation, i.e., binary, octal, hexadecimal, etc.

2. Consider the following Fortran program:

```
      H = 1./2.
      X = 2./3. - H
      Y = 3./5. - H
      E = (X+X+X) - H
      F = (Y+Y+Y+Y+Y) - H
      Q = F/E
      WRITE(6,10) Q
      STOP
   10 FORMAT(1H, G20.10)
      END
```

   The variable Q can take on several different values depending on the floating-point arithmetic hardware used by the computer. Try to figure out the value of Q for your floating-number system.

3. Try out the above operations on various computers or calculators.