NonlinearSolveAnswers

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0.1 Nonlinear Solve Answers

0.1.1 Solution to Problem 1

```
In [3]: using Roots
        f(x) = 10 - x + exp(1)*sin(x)
        fzero(f,BigFloat(2.0))
```

```
Out[3]: 9.57993354225960085070666402260652819940033391546616748611254465172760328061449 6
```

0.1.2 Solution to Problem 2

```
In [5]: f! = function (dx,x)
          dx[1] = x[1]   + x[2]   + x[3]^2 -12
          dx[2] = x[1]^2 - x[2]   + x[3]   - 2
          dx[3] = 2x[1]  - x[2]^2 + x[3]   - 1
        end
        using NLsolve
        res = nlsolve(f!,[1.0;1.0;1.0])
        res.zero
        res = nlsolve(f!,[1.0;1.0;1.0],autodiff=true)
        res.zero
```

```
Out[5]: 3-element Array{Float64,1}:
         1.0000000021270776
         2.000000001120045
         2.9999999994843582
```