```
Filename: Homework4.m
Midn W. T. Door
m824356
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Chapter 2 problems: 12,16,19,21
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Problem #12:
ans =
    -4     2
    22    15
ans =
   -16    12
    -2    19
Verify the associative law
first calculate: (A + B)+ C
ans =
    -4     2
    22    15
next calculate: A + (B + C)
ans =
    -4     2
    22    15
Verify the commutative law
first calculate: A + B + C
ans =
    -4     2
    22    15
second calculate: B + C + A
ans =
    -4     2
    22    15
last calculate: A + C + B
ans =
    -4     2
    22    15
--------------------------------
Problem #16:
earnings =
        200.00        236.50        240.50        300.00        281.25
total_salary =
       1258.25
total_widgets =
        5400
average_cost =
          0.23
average_hours =
    0.0398
The most efficient worker has largest widget to earnings ratio:
maximum_widget_ouput =
     5
most_efficient_worker_number =
     1
```

```
The least efficient worker has lowest widget to earnings ratio:
minimum_widget_output =
    3.9111
least_efficient_worker_number =
     5
--------------------------------
Problem #19:
monthly_expenses =
       1500.00       1200.00       1800.00
       1650.00       1100.00       2200.00
       2400.00       2000.00       1200.00
        750.00       1250.00       1000.00
       1000.00       2000.00       1500.00
May_expenses =
       7300.00
June_expenses =
       7550.00
July_expenses =
       7700.00
three_month_total =
       4500.00       4950.00       5600.00       3000.00       4500.00
total =
      22550.00
--------------------------------
Problem #21:
desired_x_values =
   0.63000000000000  -0.63000000000000
limit =
   2.70270270270270   0.61349693251534

********************************
Executing for
x =
   0.63000000000000
-------------------
x =
   0.63000000000000
N =
    11
sumseries =
   2.68593226800309
limvalue =
   2.70270270270270
-------------------
x =
   0.63000000000000
N =
    51
sumseries =
   2.70270270254488
limvalue =
   2.70270270270270
```

```
-------------------
x =
   0.63000000000000
N =
   101
sumseries =
   2.70270270270270
limvalue =
   2.70270270270270

********************************
Executing for
x =
  -0.63000000000000
-------------------
x =
  -0.63000000000000
N =
    11
sumseries =
   0.61730371830605
limvalue =
   0.61349693251534
-------------------
x =
  -0.63000000000000
N =
    51
sumseries =
   0.61349693255116
limvalue =
   0.61349693251534
-------------------
x =
  -0.63000000000000
N =
   101
sumseries =
   0.61349693251534
limvalue =
   0.61349693251534
>>
```