Homework 1

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Problem 1

a)

```
a <- round(8 + 9 - 7 / 3^0.3, 2)
```

Answer: $8 + 9 - \frac{7}{3^{0.3}} =$ `11.97`

b)

```
b <- round(log(sqrt((15 + 6) / (14 + 2)), base = 2), 2)
```

Answer: $\log_2\left(\sqrt{\frac{15+6}{14+2}}\right) =$ `0.2`

c)

```
c <- round(((11 + sin(pi/4)) / (factorial(3) + abs(-10)))^2, 2)
```

Answer: $\left(\frac{11+\sin\left(\frac{\pi}{4}\right)}{3!+\lvert-10\rvert}\right)^2 =$ `0.54`

d)

```
d <- round(6 + 5 - 4/3^2, 2)
```

Answer: $6 + 5 - \frac{4}{3^2} =$ `10.56`

e)

```
e <- round(exp( sqrt( (14 + 13) / (12 + 11) ) ), 2)
```

Answer: $e^{\sqrt{\frac{14+13}{12+11}}} = 2.95$

f)

```
f <- round(((11 + factorial(12)) / (factorial(13) + 14))^2, 2)
```

Answer: $\left(\frac{11+12!}{13!+14}\right)^2 = 0.01$

Problem 2

a)

```
RF <- c(2.60, 3.05, 3.74, 3.48, 5.49, 4.25, 2.57, 2.18, 3.14, 4.82, 3.28, 3.01)
```

Answer: 2.6, 3.05, 3.74, 3.48, 5.49, 4.25, 2.57, 2.18, 3.14, 4.82, 3.28, 3.01

b)

```
names(RF) <- month.abb
```

Answer: The names of the RF vector are assigned to the abbreviated month names: Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, Dec

c)

```
avg_RF <- round(mean(RF), 2)
```

Answer: The average RF value is 3.47

d)

```
min_month <- names(RF)[which.min(RF)]
max_month <- names(RF)[which.max(RF)]
```

Answer: The month with the minimum RF is Aug and the month with the maximum RF is May # Problem 3

```
# If I wrote code that would be used in all following letters, it would go here
```

a)

```
# This is where my code for this question goes
```

b)

```
# This is where my code for this question goes
```

c)

```
# This is where my code for this question goes
```

d)

```
# This is where my code for this question goes
```

Problem 4

```
# If I wrote code that would be used in all following letters, it would go here
```

a)

```
# This is where my code for this question goes
```

b)

```
# This is where my code for this question goes
```

c)

```
# This is where my code for this question goes
```

Problem 5

```
# This is where my code for this question goes
```

Problem 6

```
# This is where my code for this question goes
```