

Problem Set #1: In Class

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Create an R-notebook which prints out the answers to the following problems. All of your work and calculations **must** be done in R.

Arithmetic (1 point each)

Problem 1.

Divide 792 by 11.

Solution:

```
792/11  
## [1] 72
```

Problem 2.

Find the square root of π

```
sqrt(pi)  
## [1] 1.772454
```

Problem 3.

Calculate e^2

```
exp(2)  
## [1] 7.389056
```

Problem 4.

Find the fourth root of 256.

```
256**(1/4)  
## [1] 4  
256^(1/4)  
## [1] 4
```

Problem 5.

Calculate the natural logarithm of 2.

```
log(2)  
## [1] 0.6931472
```

Variables and vectors

Problem 6. (2 points)

Assign the value 3 to variable **a** and the value 7 to variable **b**; print out their product

```
a=3
b=7
a*b
## [1] 21
(a*b)
## [1] 21
print(a*b)
## [1] 21
```

Problem 7. (3 points)

Set the vector **v** to be the numbers between -2 and 4 (inclusive); set the vector **w** to be the first 7 natural numbers; what do you get when you multiply **v** by **w**?

Loops

Problem 8. (5 points)

Write and execute a chunk of code which calculates and prints out the sum of squares of the first n natural numbers for $n = 1, 2, \dots, 25$.