# Module "4": Assignment 1

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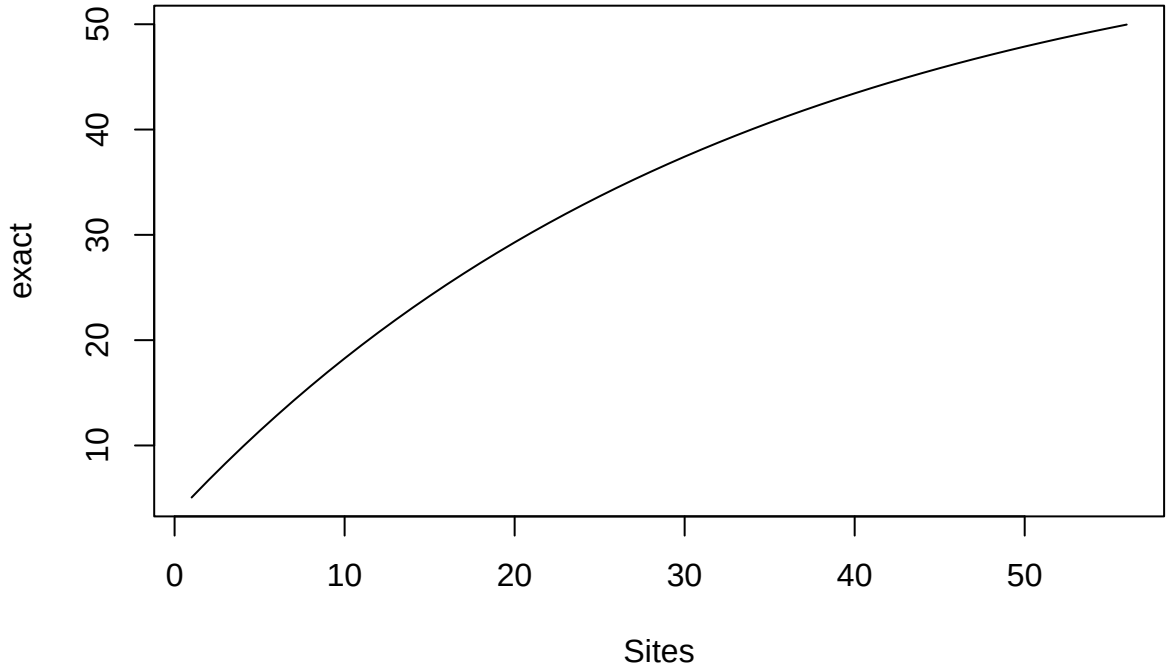
3.

```
##      Asym        R0       lrc
## 60.445437  3.357250 -3.497493
```




4.

5.

```
## [1] 8
```

```
## [1] 5
```

7.

```
## [1] 182
```

8.

```
##   species individuals       prop
## 1      DO          14 0.07692308
## 2      DM          89 0.48901099
## 3      SO          30 0.16483516
## 4      SH          12 0.06593407
## 5      SF           3 0.01648352
## 6      PP           3 0.01648352
## 7      PB           8 0.04395604
## 8      BA          23 0.12637363
```

9.

```
##   species individuals       prop    ln_prop
## 1      DO          14 0.07692308 -2.5649494
## 2      DM          89 0.48901099 -0.7153703
## 3      SO          30 0.16483516 -1.8028093
## 4      SH          12 0.06593407 -2.7191000
## 5      SF           3 0.01648352 -4.1053944
## 6      PP           3 0.01648352 -4.1053944
## 7      PB           8 0.04395604 -3.1245651
## 8      BA          23 0.12637363 -2.0685125
```

10.

```
##   species individuals       prop    ln_prop prop_lnprop
## 1      DO          14 0.07692308 -2.5649494 -0.19730380
## 2      DM          89 0.48901099 -0.7153703 -0.34982395
## 3      SO          30 0.16483516 -1.8028093 -0.29716637
## 4      SH          12 0.06593407 -2.7191000 -0.17928132
## 5      SF           3 0.01648352 -4.1053944 -0.06767134
## 6      PP           3 0.01648352 -4.1053944 -0.06767134
## 7      PB           8 0.04395604 -3.1245651 -0.13734352
## 8      BA          23 0.12637363 -2.0685125 -0.26140542
```

11.

```
## [1] 1.557667
```

12.

```
## [1] 1.600014
```

14.

```
##   species individuals       prop    ln_prop prop_lnprop      prop_sq
## 1      DO          14 0.07692308 -2.5649494 -0.19730380 0.0059171598
## 2      DM          89 0.48901099 -0.7153703 -0.34982395 0.2391317474
## 3      SO          30 0.16483516 -1.8028093 -0.29716637 0.0271706316
## 4      SH          12 0.06593407 -2.7191000 -0.17928132 0.0043473011
## 5      SF           3 0.01648352 -4.1053944 -0.06767134 0.0002717063
## 6      PP           3 0.01648352 -4.1053944 -0.06767134 0.0002717063
## 7      PB           8 0.04395604 -3.1245651 -0.13734352 0.0019321338
## 8      BA          23 0.12637363 -2.0685125 -0.26140542 0.0159702934
```

15.

```
## [1] 0.7049873
```

16.

```
## [1] 0.7962203
```