These questions use the Orange dataset that comes with RStudio, shown below in its entirety. It contains growth information for five orange trees (*age* is measured in days, and *circumference* in millimeters). The solutions are on the next page.

Tree age circumference

1 1 118 30

2 1 484 58

3 1 664 87

4 1 1004 115

5 1 1231 120

6 1 1372 142

7 1 1582 145

8 2 118 33

9 2 484 69

10 2 664 111

11 2 1004 156

12 2 1231 172

13 2 1372 203

14 2 1582 203

15 3 118 30

16 3 484 51

17 3 664 75

18 3 1004 108

19 3 1231 115

20 3 1372 139

21 3 1582 140

22 4 118 32

23 4 484 62

24 4 664 112

25 4 1004 167

26 4 1231 179

27 4 1372 209

28 4 1582 214

29 5 118 30

30 5 484 49

31 5 664 81

32 5 1004 125

33 5 1231 142

34 5 1372 174

35 5 1582 177

1. Retrieve the first row of data.

2. Compute the correlation between *age* and *circumference*.

3. Retrieve only the rows of data for Tree 4.

4. Compute the correlation between *age* and *circumference* for Tree 4 only.

5. Create a new column in the dataset called *diameter* whose value is the circumference divided by pi. (“pi” is already defined in R.)

6. After you have finished #5, write a for loop that prints the maximum diameter of each of the five trees. (There is a **max** function in R that takes a vector and returns its largest value.