Possible Activities for 1-3

1. APC: Activity 1.1.2 (except do as cylinder. Another perspective in #2 below)
2. 2. Given volume formula for cylinder, fix r, then fix h. Describe graphically (or why does graph/table make sense) what happens to V as r changes, as h changes. Which has biggest effect over time? Effect on the volume of doubling r, doubling h.
3. 3. 107- Reading Info from a Graph (Or ATC Homework 1.1.4 #4, but include negative positions and negative time): Various questions about position vs. time, including inequalities. Could also do average speed on interval, tell story of Johnny,
4. 4. Do the same as #3, except with table. Which of these tables best models the given situation?
5. 5.
6. 5. (Could alternatively be in 2-1-3) Roger likes to run at a constant speed each morning. He brings along a clock and a pedometer to check the time and how far he has gone.
   1. On Monday, he started out at 6AM and sees that at 6:20 he’s gone 4 miles, what will the pedometer read at 6:50?
   2. If, on Tuesday, he again starts out at 6AM and his pedometer reads 3.64 miles at 6:23AM, what will the pedometer read at 6:54AM?
   3. On Wednesday, Roger forgot what time he started. However, he reads on his pedometer that at 6: 04 he had gone 4.83 miles and at 6:19 he had gone 7.51 miles. How far will he had gone 51 minutes into his run? At what time would he have gone 2 miles?
8. APC: Activity 1.3.4, but without function notation. Graph 3 relationships that include the given info. (Could be in 1-2 as well).
9. APC: Exercises for 1.3.4 #8: Good multiple choice about average rate. Others like it in the exercises. Probably better for linear vs. non-linear functions in Chap. 2.
10. APC: 1.2.5 exercises: p. 20. Asking for what f(20)=h means or table/graph (Mult. choice)
11. MFG: Nonlinear models: Conical coffee filter of fixed height: write formula. Table of values r vs. V. Several other problems asking for one variable given another’s value.
12. 2167: Graph Sally swimming to island: distance from island vs. time, distance traveled vs. time, speed vs. time?