

**MATH 282 SPRING 2022  
HOMEWORK 2  
DUE APRIL 13, 2022.**

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**Required problems:**

(Quiz problems drawn from these.)

- Section 15.3: 9, 11, 15, 21, 23, 29, 31.
- Section 15.4: 7, 11, 29, 32.

**Practice matrix:**

If you got help with these...	try these on your own for more practice.
15.3.9, 11	15.3.7–14
15.3.15	15.3.15–18
15.3.21, 23	15.3.19–27
15.3.29, 31	15.3.30, 32–34
15.4.9	15.4.3–8, 10
15.4.11	15.4.12–16
15.4.29	15.4.27, 28
15.4.32	15.4.33

**Comments on some of these problems:**

- 15.3.15. Feel free to use a calculator to draw it first. (I will not ask you to figure out polar plots on an exam, though in principle you should know how to do that.)
- 15.3.23 Is this the first time you've seen a proof that the volume of a sphere is  $(4/3)\pi r^3$ ?
- 15.4.11 Notice that you don't actually need to know the proportionality constant; the answer is independent of that constant (why?).
- 15.4.32 With story problems, I like to think about which parts are toys and which parts might apply to questions of real-world interest. Can you think of real situations in which you might actually want to solve a problem like this? What aspects of the question seem most artificial (beyond the obvious one)?

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