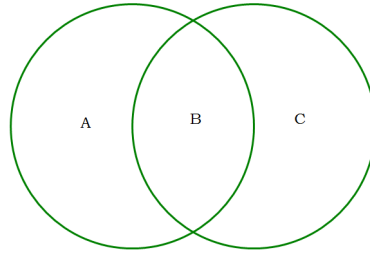


HOMEWORK 15
DISCRETE MATHEMATICS I
DUE 04-02

- (1) In the figure below, suppose that the left-hand circle is set S , and the right-hand circle is set T . There are four regions, the ones labelled A , B , and C , and the region outside of both circles. The region labelled B is set $S \cap T$.



- (a) In terms of S and T , what is the region labelled A ?
- (b) In terms of S and T , what is the region labelled C ?
- (c) In terms of S and T , what is the region outside both circles? Give two different answers.
- (2) (a) Make a Venn diagram for three sets R , S , and T .
- (b) How many regions are in the Venn diagram? (Be sure to count the region outside all the circles.)
- (c) Name each region of the Venn diagram in terms of R , S , and T .
- (3) Make a Venn diagram for four sets. (Be sure that it includes all possible regions!)
- (4) **Seven** book problems: #2.1.3, 4, 7 (3 problems) and #2.2.4, 6, 7, 14 (4 problems).