

The notes for this course say that we can use any property of the numbers that we know - we should not forget things that are “obvious” outside of these notes.

Here are a couple of useful properties:

- If  $0 < a < b$ , then  $0 < \frac{1}{b} < \frac{1}{a}$
- If  $a < b$ , then  $a < \frac{a+b}{2} < b$
- If  $a, b, c > 0$  and  $a < b$ , then
  - $0 < ac < bc$
  - $0 < a + c < b + c$
- If  $d < 0$ , then  $bd < ad < 0$