

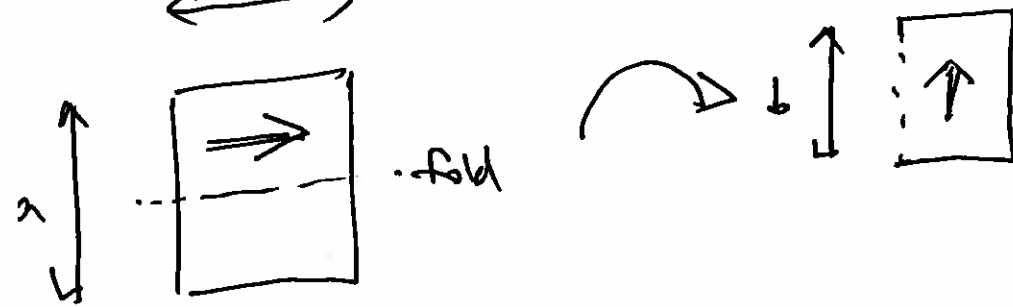
FITCC IUM

Lecture 1

Example

This example is intended to illustrate one of the themes of this course — the interplay between algebra and geometry.

N. American paper has a different shape than
mk (or European paper). Take a sheet of A₄



Then the small sheet has the same shape as the large sheet. What I mean is that

$$\frac{a}{b} = \frac{b}{a/2} \quad \left(= \frac{\text{long}}{\text{short}} \right)$$

multiply top and bottom
of this by 2

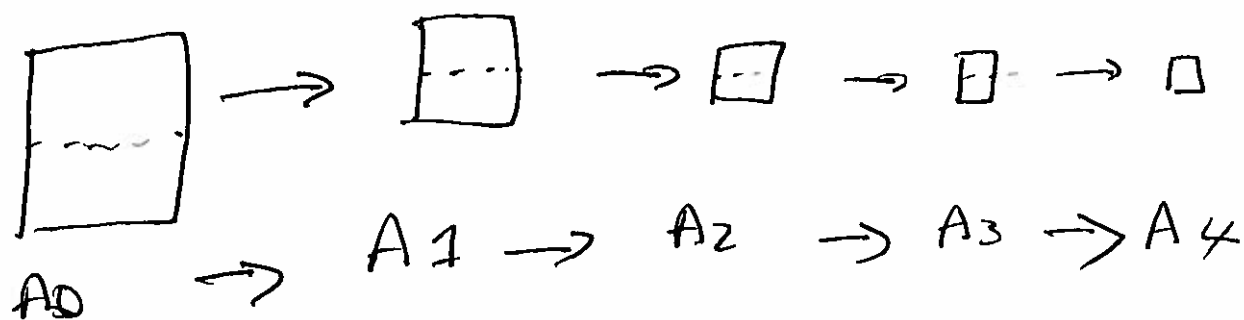
to get $\frac{a}{b} = \frac{2b}{a}$ multiply both sides

a^2

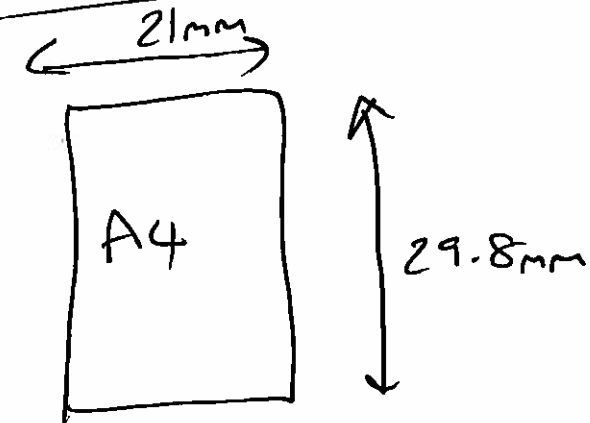
$$\text{It follows that } \frac{a}{b} = \sqrt{2}$$

This is the aspect ratio for the A-series of paper. It makes reducing and enlarging documents very easy. Not true of N. American paper (or more old fashioned UK system).

Question $A0$ ^{zero} is defined to have the same aspect ratio as $A4$ but to have area 1 m^2 . What are the dimensions of $A0$?



Let's check



(my measurements)

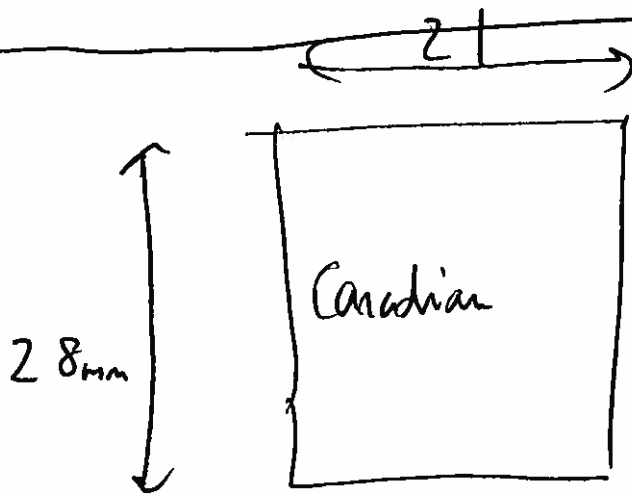
Aspect ratio

$$\frac{29.8}{21}$$

$$\approx \underline{\underline{1.42}}$$

$$\text{or } (1.42)^2 \approx 2.0164$$

so approximately $\sqrt{2}$



$$\text{Aspect ratio} = \frac{28}{21}$$

$$\approx \underline{\underline{1.3}}$$

You should always find ways to
check your calculations, to ensure
... ..