Kursprov, höstterminen 2015

Mathematics

Delprov C

1b

Elevens namn och klass/grupp

Skolverket

Instructions – Part C

Time for the test 60 minutes for Part C.

Aids Allowed aids on Part C are digital devices, formula sheet and ruler.

Tasks This part consists of one large task. The solution is to be written on separate paper, which is to be submitted together with the test booklet. In your work it is required of you to

- show your solutions
- explain/motivate your thinking
- draw figures when required.

Grading limits The test (Part A–D) gives a total maximum of 83 points.

Limit for test grade
E: At least 19 points.
D: At least 35 points of which at least 14 points at level C or higher.
C: At least 45 points of which at least 22 points at level C or higher.
B: At least 57 points of which at least 7 points at level A.
A: At least 68 points of which at least 13 points at level A.

Name: _____

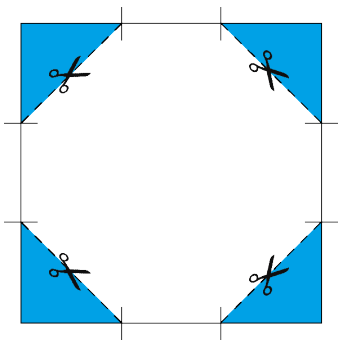
Date of birth: _____

Programme: _____ Class: _____

Also write your name, date of birth, programme and class on the sheets you hand in.

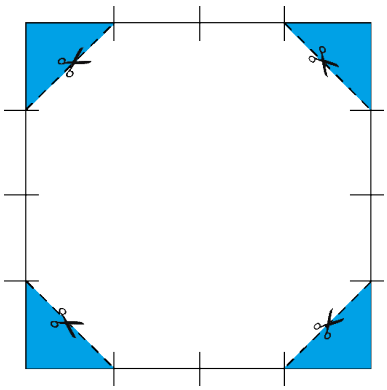
Illustration: Jens Ahlbom

15. Trimmed squares (2/3/3)



The sides of a square are divided into three sections *of equal length*.
The corners are cut away (see figure).

- What proportion of the square's area is cut away?



The sides of a square are divided into four sections *of equal length*.
The corners are cut away (see figure).

- What proportion of the square's area is now cut away?

- Investigate what proportion of a square's area is cut away if the sides are divided into five, six or more sections *of equal length*.
- Use your investigation and write a formula which expresses what proportion of a square's area is cut away if its sides are divided into *n* sections *of equal length*.
- Show that your formula works for *all* numbers of divisions of a square's sides.

When assessing your work, the teacher will consider

- what mathematical knowledge you have shown and how well you have carried out the task
- how well you have explained your work and given reasons for your conclusions
- how well you have presented your work.