Mathematics

Delprov C

1a

Elevens namn och klass/grupp

Prov som återanvänds av Skolverket omfattas av sekretess
enligt **17 kap. 4 § offentlighets- och sekretesslagen.**
Detta prov återanvänds av Skolverket t.o.m. **2020-06-30.**

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 87 points.

Limit for test grade

E: At least 20 points.
D: At least 34 points of which at least 11 points at level C or higher.
C: At least 46 points of which at least 20 points at level C or higher.
B: At least 60 points of which at least 6 points at level A.
A: At least 70 points of which at least 11 points at level A.

Name: _____

Date of birth: _____

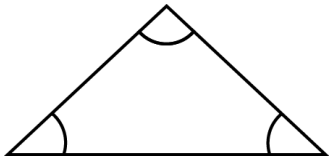
Program: _____ Class:_____

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

Illustration: Jens Ahlbom

15. Angles in regular polygons (3/4/3)

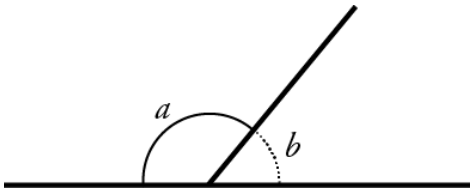
The sum of the *interior angles* of a triangle is 180°



a and *b* are supplementary angles

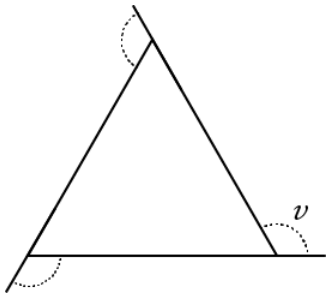
a and *b* together make 180°

$a + b = 180°$



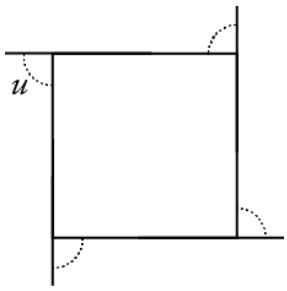
The angle *v* is an *exterior angle* of an equilateral triangle (see figure).

- How many degrees is the angle *v*?
- How many degrees is the sum of the exterior angles of the triangle?

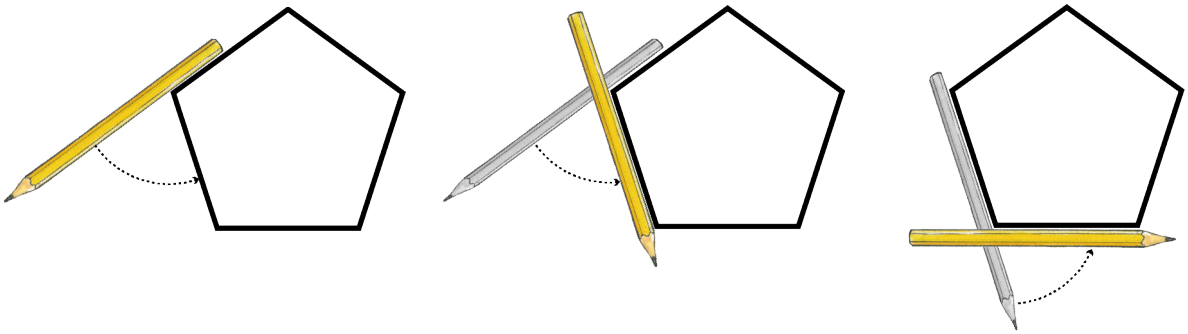


The angle *u* is an *exterior angle* of a square (see figure).

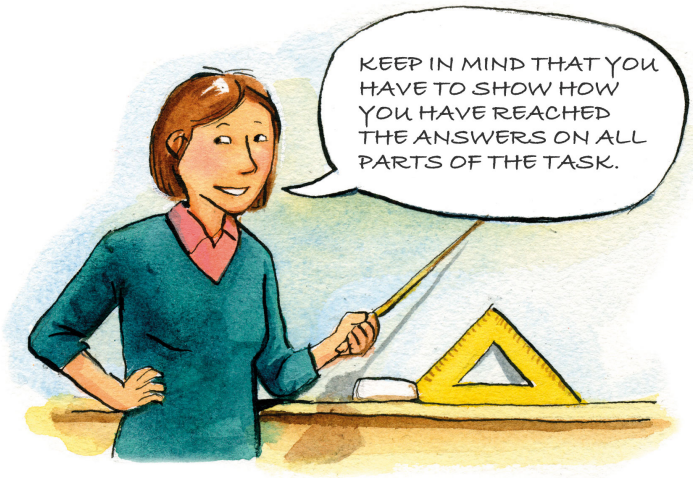
- How many degrees is the sum of the exterior angles of a square?



One way of determining the sum of the exterior angles is to use the following trick. Place your pencil along one side of a pentagon. Turn the pen. Then continue to turn the pen so that it is placed in turn along all the sides (see figure).



- How many degrees has the pen turned when it is back at the side where you started, that is, what is the sum of the pentagon's exterior angles, in degrees?
- How many degrees is *one exterior angle* of a regular pentagon and how many degrees is *one interior angle* of a regular pentagon?
- Use your results and continue to investigate, *with the help of exterior angles*, which relationships exist for the interior angles of regular polygons.



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.

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PRIM gruppen