Mathematics

Delprov C

Årskurs

9

Elevens namn och klass/grupp

Skolverket

Instructions – Part C

The box below tells you what your teacher will take into account when grading your work.

It is very important that you clearly show your working.

Aids: Calculator and formula sheet.

Solutions and answers must be written in this booklet.

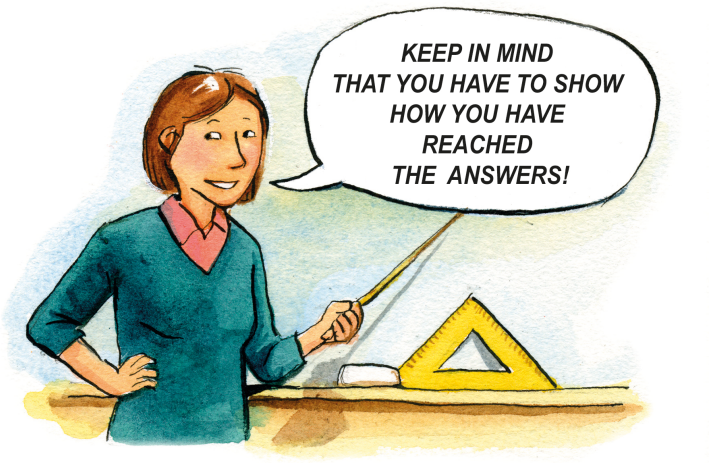
Name: _____

School: _____ Class: _____

Birth date (year/month/day): _____

Good luck!

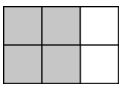
Illustration: Jens Ahlbom



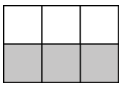
When assessing your work, the teacher will consider

- what mathematical knowledge you have shown, and how well you have completed the tasks
- how well you have shown your work
- how well you have motivated the answers.

23. Investigation of subtraction with fractions (5/4/4)

a) In the picture  $\frac{2}{3}$ is indicated.

Write another fraction for $\frac{2}{3}$ in the boxes. $\frac{2}{3} = \frac{\square}{\square}$

In the picture  $\frac{1}{2}$ is indicated.

Write another fraction for $\frac{1}{2}$ in the boxes. $\frac{1}{2} = \frac{\square}{\square}$

Calculate the difference and write your answer in its simplest form.
Show your calculations.

$\frac{2}{3} - \frac{1}{2} =$

b) Calculate the difference and write your answer in its simplest form.
Show your calculations.

$\frac{3}{4} - \frac{2}{3} =$

The fractions in the subtractions are constructed in a special way.
- The denominator is 1 greater than the numerator.
- The numerator of the first fraction has the same value as the denominator of the second fraction.

c) Which of the following four subtractions fits the description in the blue box?
Circle your answer.

$\frac{4}{5} - \frac{3}{4}$ $\frac{4}{3} - \frac{5}{4}$ $\frac{3}{4} - \frac{4}{5}$ $\frac{5}{4} - \frac{4}{3}$

d) Fill in the empty boxes so that the fractions in the subtractions have the features described in the blue box. Calculate the difference and write your answer in its simplest form.

$$\frac{10}{\square} - \frac{\square}{10} =$$

$$\frac{\square}{8} - \frac{6}{\square} =$$

e) Choose two fractions that have the same features as above so that you get a new subtraction. Calculate the difference and write your answer in its simplest form.

$$\frac{\square}{\square} - \frac{\square}{\square} =$$

f) Examine the tasks you have been working with.

- What is the relationship between the numerator of the result and the numerators of the terms?

- What is the relationship between the denominator of the result and the denominators of the terms?

g) Fill in the empty boxes so that the algebraic expression is constructed in the same way as in the previous subtractions. Then show that your relationship always applies.

$$\frac{a}{\square} - \frac{\square}{a} =$$

PRIM gruppen