Lösungen : Flächenberechnungen Test a

1. a) 0.0004 m^2 b) $340\,140$ cm^2 c) $120\,000$ m^2 d) $0.000'000'34$ km^2

   0.0025 m^2 5 dm   500 a $0.000'000'000'00\,456$ ha

2.

GEG: $c = 54$ cm   GES: A, b

   $h_c = 31$ cm

   $a = 43$ cm   a) $A = \dfrac{c \cdot h_c}{2} = 837$ cm^2

                   b) $A = \dfrac{a \cdot b}{2}$

                      $b = \dfrac{2A}{a} = 38.93$ cm

3.

$A = \dfrac{a+c}{2} \cdot h = \dfrac{68.3 + 48.6}{2} \cdot 57.4 = 3355.03$ mm^2

$- A_1 = \dfrac{g \cdot h}{2} = \dfrac{68.3 \cdot 44.8}{2} = 1529.92$ mm^2

$- A_2 = \dfrac{a+c}{2} \cdot h = \dfrac{48.6 + 26.6}{2} \cdot 12.6 = 473.76$ mm^2

$A_{/\!/\!/} = 1351.35$ mm^2

4.

GEG: $A = 9.3$ m^2 a) $m = \dfrac{a+c}{2}$

   $c = 2.7$ m $a = 2m - c = 3.5$ m

   $m = 3.1$ m

GES: a, h b) $A = m \cdot h$

                      $h = \dfrac{A}{m} = 3$ m

5.

a) $A = \dfrac{e \cdot f}{2} = 187.5$ cm^2

b) $A = \dfrac{c \cdot h_c}{2} \Rightarrow h_c = \dfrac{2A}{c} = 12.5$ cm

c) $A = \dfrac{a+c}{2} \cdot h \Rightarrow h = \dfrac{2A}{a+c} = 15$ cm

6.

A_1

$b = 3x$

$\ell = 5x$

A_2

$3x + 2$

$5x - 2$
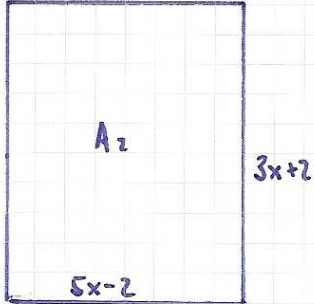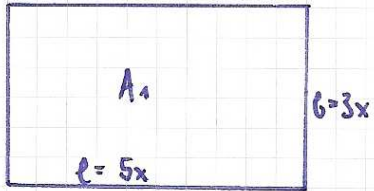
a) $\quad A_1 = A_2$

$5x \cdot 3x = (5x-2)(3x+2)$

$15x^2 = 15x^2 + 10x - 6x - 4 \qquad | -15x^2$

$0 = 4x - 4 \qquad\qquad\qquad | +4$

$4 = 4x \qquad\qquad\qquad\qquad | :4$

$1 = x$

ALSO: $\quad \ell = 5x = \underline{\underline{5\,cm}}$

$\qquad\qquad b = 3x = \underline{\underline{3\,cm}}$

b) $\quad A = \ell \cdot b = \underline{\underline{15\,cm^2}}$