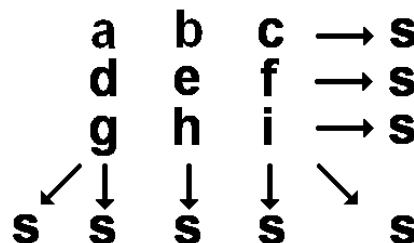


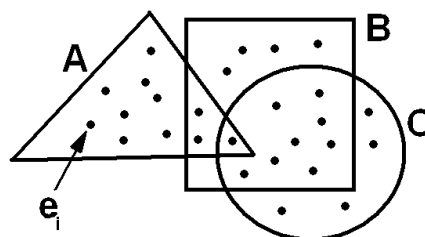
- Probl. 1** (a) $\{a, b, c, d, e, f, g, h, i\} = \{1, 2, 3, 4, 5, 6, 7, 8, 9\}$
 $a = 4, b = 9, s = 15$
 $c, d, e, f, g, h, i = ?$
- (b) $\{a, b, c, \dots, h, i\} = \{2, 3, \dots, 9, 10\}$
 $a = 5, b = 4, s = 18$
 $c, d, e, f, g, h, i = ?$



- Probl. 2** $f(x) = \begin{cases} \sin(x) & x \in (0, \frac{\pi}{2}) \\ \sin(x - \frac{\pi}{2}) + 1 & x \in [\frac{\pi}{2}, \pi] \end{cases}$

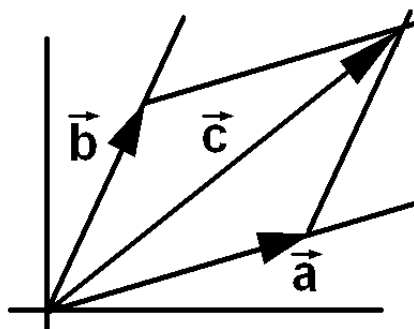
- (a) $D_f = ?$, $W_f = ?$
 (b) f bijektiv? • *bijective?*

- Probl. 3** $|A \cup B \cup C| = 125$,
 $|A| = 40, |B| = 50$,
 $|A \cap B| = 10$,
 $|B \cap C| = 15$,
 $|A \cap C| = 20$,
 $|A \cap B \cap C| = 10$,
 $|C| = ?$
 $|A \cap B \cap C| = 11 \Rightarrow |C| = ?$
 (möglich? • *possible?*)



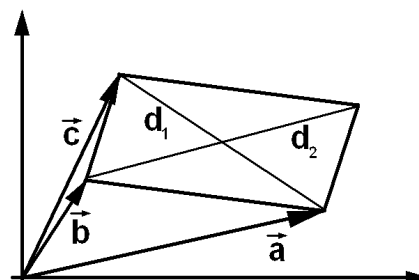
- Probl. 4** $\vec{a} = \begin{pmatrix} 7 \\ 1 \end{pmatrix}$, $\vec{b} = \begin{pmatrix} 3 \\ 6 \end{pmatrix}$, $\vec{c} = \begin{pmatrix} 10 \\ 8 \end{pmatrix}$,
 $\vec{c} = \lambda \vec{a} + \mu \vec{b}$, $B' = \{\vec{a}, \vec{b}\}$

- (a) $\lambda, \mu = ?$ Rechnung **und** Zeichnung!
 • *Calcul et dessin!*
- (b) $|\vec{c}| = ?$
- (c) Koordinaten von $\vec{c}$ in der Basis B' ?
 • *Coordonnées de $\vec{c}$ dans la base B' ?*



- Probl. 5** $\vec{a} = \begin{pmatrix} 9 \\ 2 \end{pmatrix}$, $\vec{b} = \begin{pmatrix} 2 \\ 3 \end{pmatrix}$, $\vec{c} = \begin{pmatrix} 3 \\ 4 \end{pmatrix}$

- (a) $d_1 = ?$
 (b) $d_2 = ?$



Rückseite! • *Voir au verso!*

Probl. 6 $1 + 3 + 5 + 7 + \dots + 99'999 = ?$

(a) Idee: Zeichnung! • *Idée: Dessin!*

(b) Rechnung! • *Calcul!*

