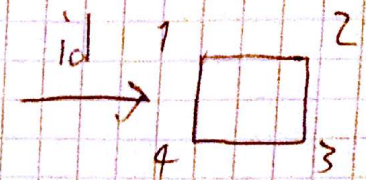
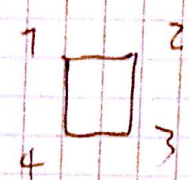


$S_4 \rightarrow D_4$      $S_2$      $\begin{array}{c|c} \text{forward} & \text{reverse} \\ \hline \end{array}$

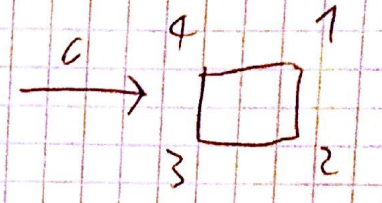
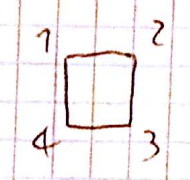
$S_4 \rightarrow$  permutation cycle

$D_4 \rightarrow$  cycle

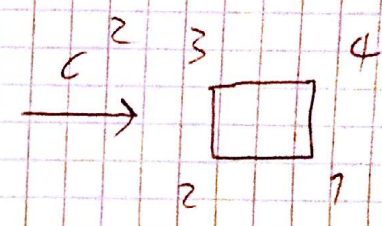
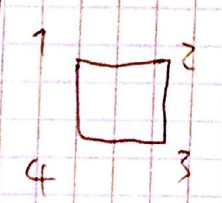
id



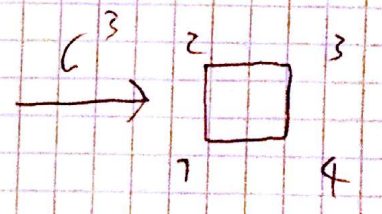
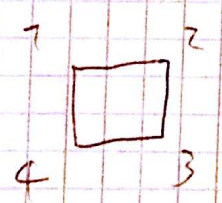
$(1432)$



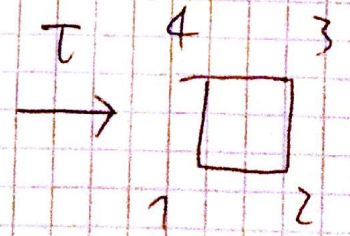
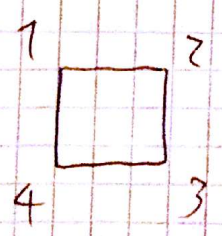
$(13)(24)$



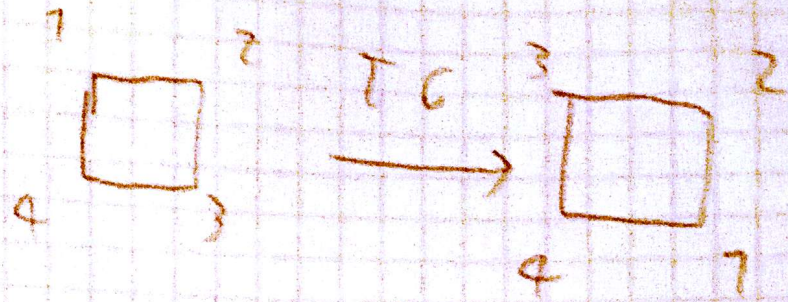
$(1234)$



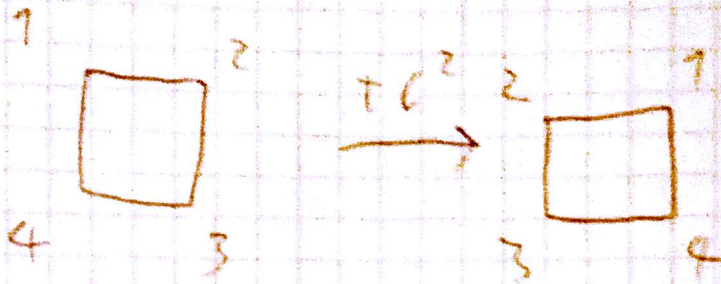
$(14)(23)$



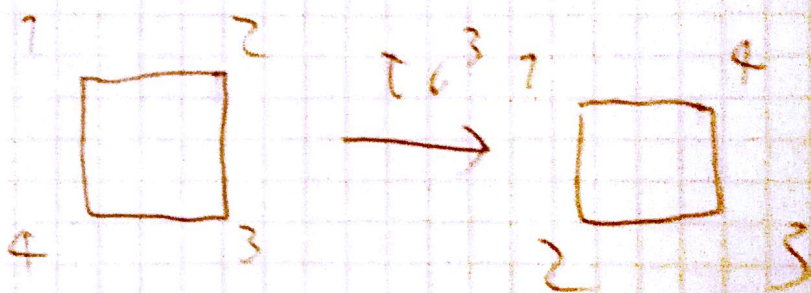
(13)



(12)(34)



(24)



שאלה 1

האם הפונקציה  $f$  היא פונקציה זוגית או אי-זוגית?

$$f(1) = 13$$

$$f(2) f(3) = (14)(23) = 1432$$

$$= 24$$

$$f(1) \neq f(2) f(3)$$

האם הפונקציה  $f$  היא פונקציה זוגית או אי-זוגית?

הפונקציה  $f$  היא פונקציה זוגית או אי-זוגית?

הפונקציה  $f$  היא פונקציה זוגית או אי-זוגית?

הפונקציה  $f$  היא פונקציה זוגית או אי-זוגית?

הפונקציה  $f$  היא פונקציה זוגית או אי-זוגית?

Se

id

(1234)

(13)(24)

(1432)

(14)(23)

(13)

(12)(34)

(24)

De

id

$\sigma$

$\sigma^2$

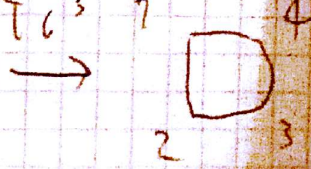
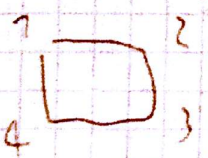
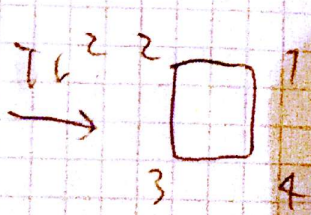
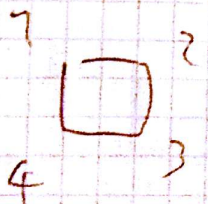
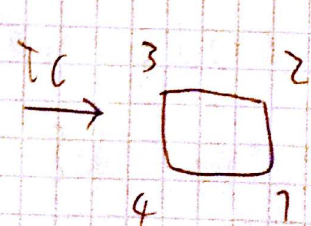
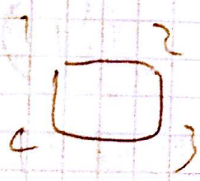
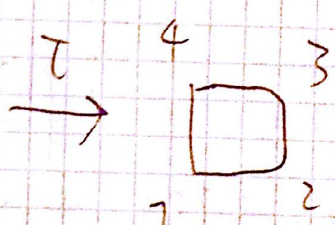
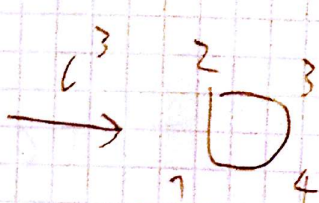
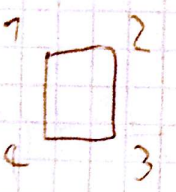
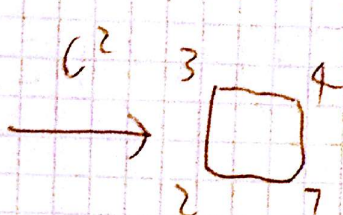
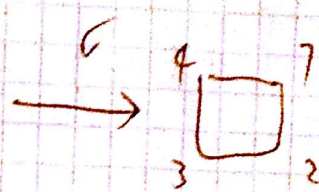
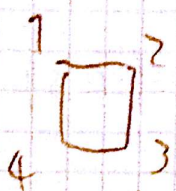
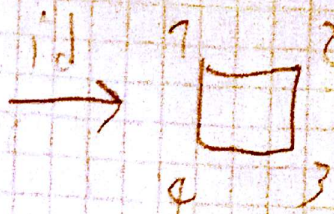
$\sigma^3$

$\tau$

$\tau\sigma$

$\tau\sigma^2$

$\tau\sigma^3$



אם  $f$  ו- $g$  הם

פונקציות ממשל  $S$  ל- $T$   
:הוכח

$$f(g) = (13)$$

$$\begin{aligned} f(g) \circ f \circ g &= (14)(23)(1234) \\ &= (13) \end{aligned}$$

$$f(g) \circ f \circ g = f(g)$$

(אם  $f$  ו- $g$  הם פונקציות ממשל  $S$  ל- $T$   
הוכח:  $f(g) \circ f \circ g = f(g)$ )