5) $U \circ S = (Q \cdot S \mid V \mid S \mid U) =$

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№ 2

$D_R =$

а) $\{(a,1), (a,2), (a,3), (a,4), (a,5), (a,6)\}$

$Dom\ R = \{a\}$

$Im\ R = \{1, 2, 3, 4, 5, 6\}$

б) $S = \{(x,y) : x, y \in I \text{ и } x^2 + y^2 \leq 16\}$

$x \in I$

$x^2 + y^2 \leq 16 \Rightarrow x^2 \leq 16 - y^2 \Rightarrow x \leq 4 - y$

$Dom\ S = \{x : x \in I \text{ и } x \leq 4 - y\}$

$Im\ S = \{y : y \in I \text{ и } y \leq 4 - x\}$

в) $T = \{(x,y) : 0 \leq x, y \leq 10 \text{ и } x > 2y\}$

$Dom\ T = \{x : 0 \leq x \leq 10 \text{ и } x > 2y\}$

$Im\ T = \{y : 0 \leq y \leq 10 \text{ и } y < \frac{x}{2}\}$

№4

$A = \{(b,a), (c,e), (d,i), (f,o), (g,u)\}$

$B = \{(v,a), (w,e), (x,i), (y,o), (z,u)\}$

а) $A^{-1} = \{(a,b), (e,c), (i,d), (o,f), (u,g)\}$

б) $B^{-1} = \{(a,v), (e,w), (i,x), (o,y), (u,z)\}$

в) $A^{-1} \circ B = \emptyset$

г) $B^{-1} \circ A = \emptyset$

№8.

$A = \{a, b, c, d, e\}$,

$S = \{(a,a), (a,b), (b,c), (b,d), (c,e), (e,d), (c,a)\}$

$T = \{(a,b), (b,a), (b,c), (b,d), (e,e), (d,e), (c,b)\}$.

$U = \{(a,b), (a,a), (b,c), (b,b), (e,e), (b,a), (c,b), (c,c), (d,d), (a,c), (c,a)\}$

$V = \{(a,b), (b,c), (b,b), (e,e), (b,a), (c,b), (d,d), (a,c), (c,a)\}$.

а) U, V

б) U

в) U

г) $\emptyset$