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### **Lista da 2ª Quinzena**

1) a) (1,3), (2,5), (3,3)

b) (4,2), (5,3)

c) (5,0), (2,2)

d) (1,1), (3,9)

8) a) Reflexiva

b) simétrica

c) Simétrica e transitiva

d) Reflexiva e simétrica

e) Anti-simétrica

16) a)  $p = \{ (1,1), (2,3), (3,1) \}$

b)  $p = \{ (1,1), (2,2) \}$

c)  $p = \{ (1,2), (1,3), (3,2) \}$

d)  $p = \{ (1,2), (1,3), (2,3) \}$

e)  $p = \{ (1,2), (1,3), (2,1), (2,3), (3,1), (3,2) \}$

17) Não, pois podemos procurar apenas o fecho reflexivo, o simétrico e o transitivo de uma relação em um conjunto.

27) a)  $p^{-1} = \{ (2,1), (3,2), (3,5), (5,4) \}$

b)  $p = \{ (1,1), (4,4), (10,10) \} \rightarrow p^{-1} = \{ (1,1), (4,4), (10,10) \}$

c)  $p = \{ (2,4), (4,2) \} \rightarrow p^{-1} = \{ (4,2), (2,4) \}$

d)  $p = \{ (1,1), (1,4), (4,4) \} \rightarrow p^{-1} = \{ (1,1), (4,1), (4,4) \}$

e)  $p = \{ (2,10), (2,200), (10,200) \} \rightarrow p^{-1} = \{ (10,2), (200,2), (200,10) \}$

f)  $p = \{ (1,1), (1,2) \} \rightarrow p^{-1} = \{ (1,1), (2,1) \}$

g)  $p = \{ (1,1), (1,2), (1,3) \} \rightarrow p^{-1} = \{ (1,1), (2,1), (3,1) \}$