

Math 270 - Basic Discrete Mathematics
Practice Quiz on Section 8.1

Solutions

Directions: Answer the problems given below.

1. Let $A = \{1, 2, 3, 4, 5, 6\}$, and let R be the relation on A defined as follows:

$$\text{For every } x, y \in A, xRy \Leftrightarrow 4|(x^2 - y^2).$$

a. Write out the relation R as a set of ordered pairs.

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

b. Draw the directed graph of R .

