

Problem 4.

(a) Initially, we have:

x	y	z	w	time
	4, x	6, w	5, y	initially

(b) Notation: ' $a \rightarrow b : d$ ' means node a informs node b of distance d .

- $y \rightarrow w : 4, y \rightarrow z : 4$
- $z \rightarrow y : 6, z \rightarrow w : \infty$
- $w \rightarrow y : \infty, w \rightarrow z : 5$

(c) If $d(x, y)$ changes from 4 to 60 immediately before the first exchange, we get:

x	y	z	w	time
	4, x	6, w	5, y	initially
	9, z	6, w	5, y	After 1st exchange
	9, z	6, w	10, y	After 2nd exchange

Note the routing loop: if z receives a packet to x then

- z sends the packet to w (1st row), then
- w sends the packet to y (2nd row), then
- y sends the packet back to z (3rd row).