(a) 10, 12, 3, 11, 6, 8, 9.

(1) 10
(2) 12   (3) 3
(4) 11 (5) 6 (6) 8 (7) 9

heapify (3)   3
                8 9

heapify (2)   6
               11 12

heapify (1)   10   3   3
              6   3   →   6   10   →   6   8
            11 12 8 9   11 12 8 9   11 12 10 8

3, 6, 8, 11, 12, 10, 9

(b)   2   2   2   7
       4   6   Insert 3   4   6   trickle up   4   6   3   6
     8 10 12 14   →   8 10 12 14   →   3 10 12 14   →   4 10 12 14
    16   16 3   16 8   16 8

pop   8   heapify   3   heapify   3   Pop   16   heapify
  →   3   6   →   8   6   →   4   6   →   4   6   →
        4 10 12 14   4 10 12 14   8 10 12 14   8 10 12 14
       16   16   16

   4   4   Insert 5   4   trickle up   4   4
 16   6   →   8   6   →   8   6   →   8   6   →   5   6
8 10 12 14   16 10 12 14   16 10 12 14   5 10 12 14   8 10 12 14
                                    5   16   16