

1) Not without some other verification, as the public key is available to anyone.

2) a.  $O(n^2)$     b.  $O(n^3)$     c.  $O(n)$     d.  $O(n^2)$   
 e.  $O(2^{n^3})$     f.  $O(2^{n^3})$     g.  $O(n^4)$     h.  $O(2^{n^2})$

3) a. 1157942081, 5

b. 463148717

c. 542609939

d. 41883584

e. Bob should not pay, as otherwise it will not be affected by the median, and breaking encryption will be easy.

4) 16117

5) a. 4394

b. 9786

c. 23455