

These problems were from April 8, but I guess I had the wrong link on the homework page, so here it is now. It is a good review of primitive roots.

Collected Problems:

1. In exercise 21.2, $e_m(a)$ is defined for a composite number m . We say the a is a primitive root mod m , if $e_m(a) = \phi(m)$.
 - (a) Find an m with no primitive roots.
 - (b) Show that if m has one primitive root then it has exactly $\phi(\phi(m))$ primitive roots.
2.
 - (a) Find a primitive root of 25 (Hint:there is one) and make a table of powers for this number.
 - (b) Find all primitive roots of 25.