Rec is the Complexity of the recursive function. Dir is the complexity of the direct solution. Div is the complexity of the if statements. Com is the complexity to combine all Recs of smaller sizes.

Question 1:

Fib(N) complexity= Dir(N)= is one step(zero calc) for the case of returning 1 (O) for N= 1,2;

Div(N)= is only one compare statement per number of iterations(1)+

FibCom(N-1)= the problem is getting smaller+ FibCom(N-2) the problem getting smaller+

Com= 1 because the there is a addition per iteration. For n>2

Question 2:

Pw complexity= Dir(N)= is one step(zero calc) for the case of returning x (O) for N= 1;

Div(N)= is only one compare statement per number of iterations(1)+

+ Pw complexity(y-1) the problem getting smaller+

Com= 1 because the there is one multiplication per iteration. For n>2

Question3:

Pw complexity= Dir(N)= is one step(zero calc) for the case of returning 1 (O) for N= 1;

Div(N)= is 2 compare statements per number of iterations(1)+ {

(+ Pw2comp(y/2) the problem getting smaller+ Pw2comp(y/2) the problem getting smaller

Com= 1 because the there is one multiplication per iteration. if y is even)

(+ Pw2comp(y/2) the problem getting smaller+ Pw2comp(y/2) the problem getting smaller

Com= 2 because there are 2 multiplications per odd iteration. if y is odd)

}

Question 4:

mult complexity= Dir(N)= is one step(zero calc) for the case of returning m (O) for N= 1;

Div(N)= is only one compare statement per number of iterations(1)+

+ mult complexity(n-1) the problem getting smaller+

Com= 1 because the there is one addition per iteration. For n>2

Question 5:

log complexity= Dir(N)= is one step(zero calc) for the case of returning 0 for N= 1;

Div(N)= is only one compare statement per number of iterations(1)+

+ log complexity(n/2) the problem getting smaller+

Com= 1 because the there is one addition per iteration. For n>2