

Section X.6 Homework

ORAL:

1. Suppose $F(n)$ is defined by

$$F(n) = \prod_{p^a | n} \frac{1 + (1-p)a}{1+a}.$$

Determine the product representation of the multiplicative function f such that $F = f * P_0 = \sum_{d|n} f(d)$.

2. Suppose $f(n)$ is defined by

$$f(n) = \prod_{p^a | n} \frac{2a+1}{p}.$$

Give the product representation of the multiplicative function $F = f * P_0 = \sum_{d|n} f(d)$.

WRITTEN:

3. Suppose $F(n)$ is defined by

$$F(n) = \prod_{p^a | n} \frac{p}{a(a+1)}.$$

Determine the product representation of the multiplicative function f such that $F = f * P_0 = \sum_{d|n} f(d)$.

4. Suppose $f(n)$ is defined by

$$f(n) = \prod_{p^a | n} \ln \left(\frac{a+2}{a+1} \right).$$

Give the product representation of the multiplicative function $F = f * P_0 = \sum_{d|n} f(d)$.