

```
> with(qseries);
[ aqprod, changes, etamake, etaq, findcong, findhom, findhomcombo, findhomcombomodp,
  findhommodp, findlincombo, findlincombomodp, findnonhom, findnonhomcombo, findpoly,
  jac2prod, jac2series, jacprod, jacprodmake, mprodmake, packageversion, prodmake, qbin,
  qdegree, qetamake, qfactor, qs2jaccombo, quinprod, sift, theta, theta2, theta3, theta4, tripleprod, winquist,
  zqfactor ]
```

(1)

```
> x:=add(q^(n*(n+1)/2),n=0..20);
x := 1 + q + q3 + q6 + q10 + q15 + q21 + q28 + q36 + q45 + q55 + q66 + q78 + q91 + q105 + q120 + q136 + q153
    + q171 + q190 + q210
```

(2)

```
> etamake(x,q,20);
      
$$\frac{\eta(2\tau)^2}{q^{1/8}\eta(\tau)}$$

```

(3)

```
> qetamake(x,q,20);
      
$$\frac{E(q^2)^2}{E(q)}$$

```

(4)

```
> P:=series(1/etaq(q,1,1001),q,1001):
> qdegree(P);
      1000
```

(5)

```
> findcong(P,1000);
      [4, 5, 5]
      [5, 7, 7]
      [6, 11, 11]
      [24, 25, 25]
      {[4, 5, 5], [5, 7, 7], [6, 11, 11], [24, 25, 25]}
```

(6)