

Pensieve header: January 13: Jones polynomial experiments, Fibonacci.

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Get["C:\\drorbn\\AcademicPensieve\\Classes\\16-1750-ShamelessMathematica\\160111-
JonesPoly.m"]
```

**Knot**

Knot

```
Knot = Xm[1, 12, 2, 13] Xm[7, 2, 8, 3] Xm[3, 8, 4, 9] Xm[11, 4, 12, 5]
Xp[13, 7, 14, 6] Xp[9, 15, 10, 14] Xp[15, 11, 16, 10] Xp[5, 1, 6, 16]
Xm[1, 12, 2, 13] Xm[3, 8, 4, 9] Xm[7, 2, 8, 3] Xm[11, 4, 12, 5]
Xp[5, 1, 6, 16] Xp[9, 15, 10, 14] Xp[13, 7, 14, 6] Xp[15, 11, 16, 10]
```

**Jones [Knot]**

$$\frac{1}{q^9} - \frac{2}{q^7} + \frac{2}{q^5} - \frac{1}{q^3} + \frac{1}{q} + q - q^3 + 2q^5 - 2q^7 + q^9$$

**f[0] = 1; f[1] = 1;**

**f[n\_] := (f[n] = f[n-1] + f[n-2])**

**Table[f[k], {k, 1, 10}]**

{1, 2, 3, 5, 8, 13, 21, 34, 55, 89}

**f[40]**

165 580 141

**? f**

Global`f

f[0] = 1

f[1] = 1

f[2] = 2

f[3] = 3

f[4] = 5

f[5] = 8

f[6] = 13

f[7] = 21

f[8] = 34

f[9] = 55

f[10] = 89

f[11] = 144

f[12] = 233

$$f[13] = 377$$

$$f[14] = 610$$

$$f[15] = 987$$

$$f[16] = 1597$$

$$f[17] = 2584$$

$$f[18] = 4181$$

$$f[19] = 6765$$

$$f[20] = 10946$$

$$f[21] = 17711$$

$$f[22] = 28657$$

$$f[23] = 46368$$

$$f[24] = 75025$$

$$f[25] = 121393$$

$$f[26] = 196418$$

$$f[27] = 317811$$

$$f[28] = 514229$$

$$f[29] = 832040$$

$$f[30] = 1346269$$

$$f[31] = 2178309$$

$$f[32] = 3524578$$

$$f[33] = 5702887$$

$$f[34] = 9227465$$

$$f[35] = 14930352$$

$$f[36] = 24157817$$

$$f[37] = 39088169$$

$$f[38] = 63245986$$

$$f[39] = 102334155$$

$$f[40] = 165580141$$

$$f[n_] := f[n] = f[n - 1] + f[n - 2]$$