

picalc.m

```
P = zeros(40,1);
P(2) = 2*sqrt(2);
disp (sprintf ('P(%2d) = %23.15e', 2, P(2)));
for n = 2:39
    P(n+1) = P(n)*sqrt(2/(1+sqrt(1-(P(n)/2^n)^2)));
    disp (sprintf ('P(%2d) = %23.15e', n+1, P(n+1)));
end
```

output:

```
P( 2) = 2.828427124746190e+000
P( 3) = 3.061467458920719e+000
P( 4) = 3.121445152258053e+000
P( 5) = 3.136548490545940e+000
P( 6) = 3.140331156954753e+000
P( 7) = 3.141277250932773e+000
P( 8) = 3.141513801144301e+000
P( 9) = 3.141572940367091e+000
P(10) = 3.141587725277160e+000
P(11) = 3.141591421511200e+000
P(12) = 3.141592345570118e+000
P(13) = 3.141592576584873e+000
P(14) = 3.141592634338563e+000
P(15) = 3.141592648776985e+000
P(16) = 3.141592652386591e+000
P(17) = 3.141592653288992e+000
P(18) = 3.141592653514593e+000
P(19) = 3.141592653570993e+000
P(20) = 3.141592653585093e+000
P(21) = 3.141592653588618e+000
P(22) = 3.141592653589499e+000
P(23) = 3.141592653589719e+000
P(24) = 3.141592653589775e+000
P(25) = 3.141592653589788e+000
P(26) = 3.141592653589792e+000
P(27) = 3.141592653589793e+000
P(28) = 3.141592653589793e+000
P(29) = 3.141592653589793e+000
P(30) = 3.141592653589793e+000
P(31) = 3.141592653589793e+000
P(32) = 3.141592653589793e+000
P(33) = 3.141592653589793e+000
P(34) = 3.141592653589793e+000
P(35) = 3.141592653589793e+000
P(36) = 3.141592653589793e+000
P(37) = 3.141592653589793e+000
P(38) = 3.141592653589793e+000
P(39) = 3.141592653589793e+000
P(40) = 3.141592653589793e+000
```