

```

> f:=h->(a^h-1)/h;
                                      $f:=h \rightarrow \frac{a^h - 1}{h}$ 
(1)
=
> f(2);
                                      $\frac{1}{2} a^2 - \frac{1}{2}$ 
(2)
=
> f(1/2);
                                      $2\sqrt{a} - 2$ 
(3)
=
> f(1/3);
                                      $3 a^{1/3} - 3$ 
(4)
=
> f(1/4);
                                      $4 a^{1/4} - 4$ 
(5)
=
> a:=13;
                                     a := 13
(6)
=
> f(1/4);
                                      $4 13^{1/4} - 4$ 
(7)
=
> evalf(f(1/4));
                                     3.595315688
(8)
=
> evalf(f(1/5));
                                     3.351388260
(9)
=
> evalf(f(1/6));
                                     3.200437422
(10)
=
> evalf(f(1/10));
                                     2.92392221
(11)
=
> evalf(f(1/100));
                                     2.5981272
(12)
=
> Digits:=50;
                                     Digits := 50
(13)
=
> evalf(f(1/100));
                                     2.59812724144340113583202244325547309032394760351
(14)
=
> evalf(f(1/1000));
                                     2.5682416543211792190266759417145741165350973643
(15)
=
> evalf(f(1/10000));
                                     2.565278333848178359995919624314374029910384206
(16)
=
> log(13.0);
                                     2.5649493574615367360534874415653186048052679447602
(17)
=
> evalf(f(1/100000));
                                     2.56498225256881546090898850024542526935492094
(18)
=
> f(1/100000);
                                      $100000 13^{\frac{1}{100000}} - 100000$ 
(19)
=
> limit(f(h),h=0);
                                     ln(13)
(20)

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```

> g:=theta->sin(theta)/theta;
                                     g :=  $\theta \rightarrow \frac{\sin(\theta)}{\theta}$  (21)
=
> g(2);
                                      $\frac{1}{2} \sin(2)$  (22)
=
> g(1/2);
                                      $2 \sin\left(\frac{1}{2}\right)$  (23)
=
> g(1/3);
                                      $3 \sin\left(\frac{1}{3}\right)$  (24)
=
> evalf(g(1/3));
0.98158409038845673252003225580286181819290422068128 (25)
=
> evalf(g(1/4));
0.98961583701809171838739481939755678357356392154788 (26)
=
> evalf(g(1/5));
0.99334665397530607729706313559194875185103364770105 (27)
=
> evalf(g(1/6));
0.99537679616049019138734813359191539046952667615018 (28)
=
> evalf(g(1/10));
0.99833416646828152306814198410622026989915388017982 (29)
=
> evalf(g(1/100));
0.999983333341666646825424382690997290389643853601692 (30)
=
> evalf(g(1/1000));
0.999999833333334166666646825397100970015131473480866 (31)

```