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The Taylor Series for sinx is as follows: -

Taylor Series for x[1] = 0 is as follows: -
For term = 1, the sum is: 0
For term = 2, the sum is: 0
For term = 3, the sum is: 0
For term = 4, the sum is: 0
For term = 5, the sum is: 0
For term = 6, the sum is: 0
For term = 7, the sum is: 0
For term = 8, the sum is: 0
For term = 9, the sum is: 0
For term = 10, the sum is: 0
For term = 11, the sum is: 0
For term = 12, the sum is: 0
For term = 13, the sum is: 0
For term = 14, the sum is: 0
For term = 15, the sum is: 0
For term = 16, the sum is: 0
For term = 17, the sum is: 0
For term = 18, the sum is: 0
For term = 19, the sum is: 0
For term = 20, the sum is: 0
The number of terms required to arrive at a convergent value for x[1] = 0 is 2.


Taylor Series for x[2] = 5.235988e-01 is as follows: -
For term = 1, the sum is: 5.235988e-01
For term = 2, the sum is: 4.996742e-01
For term = 3, the sum is: 5.000021e-01
For term = 4, the sum is: 5.000000e-01
For term = 5, the sum is: 5.000000e-01
For term = 6, the sum is: 5.000000e-01
For term = 7, the sum is: 5.000000e-01
For term = 8, the sum is: 5.000000e-01
For term = 9, the sum is: 5.000000e-01
For term = 10, the sum is: 5.000000e-01
For term = 11, the sum is: 5.000000e-01
For term = 12, the sum is: 5.000000e-01
For term = 13, the sum is: 5.000000e-01
For term = 14, the sum is: 5.000000e-01
For term = 15, the sum is: 5.000000e-01
For term = 16, the sum is: 5.000000e-01
For term = 17, the sum is: 5.000000e-01
For term = 18, the sum is: 5.000000e-01
For term = 19, the sum is: 5.000000e-01
For term = 20, the sum is: 5.000000e-01
The number of terms required to arrive at a convergent value for x[2] = 5.235988e-01 ↙
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is 4.


Taylor Series for x[3] = 7.853982e-01 is as follows: -
For term = 1, the sum is: 7.853982e-01
For term = 2, the sum is: 7.046527e-01
For term = 3, the sum is: 7.071430e-01
For term = 4, the sum is: 7.071065e-01
For term = 5, the sum is: 7.071068e-01
For term = 6, the sum is: 7.071068e-01
For term = 7, the sum is: 7.071068e-01
For term = 8, the sum is: 7.071068e-01
For term = 9, the sum is: 7.071068e-01
For term = 10, the sum is: 7.071068e-01
For term = 11, the sum is: 7.071068e-01
For term = 12, the sum is: 7.071068e-01
For term = 13, the sum is: 7.071068e-01
For term = 14, the sum is: 7.071068e-01
For term = 15, the sum is: 7.071068e-01
For term = 16, the sum is: 7.071068e-01
For term = 17, the sum is: 7.071068e-01
For term = 18, the sum is: 7.071068e-01
For term = 19, the sum is: 7.071068e-01
For term = 20, the sum is: 7.071068e-01
The number of terms required to arrive at a convergent value for x[3] = 7.853982e-01 ↙
is 5.


Taylor Series for x[4] = 1.047198e+00 is as follows: -
For term = 1, the sum is: 1.047198e+00
For term = 2, the sum is: 8.558008e-01
For term = 3, the sum is: 8.662953e-01
For term = 4, the sum is: 8.660213e-01
For term = 5, the sum is: 8.660254e-01
For term = 6, the sum is: 8.660254e-01
For term = 7, the sum is: 8.660254e-01
For term = 8, the sum is: 8.660254e-01
For term = 9, the sum is: 8.660254e-01
For term = 10, the sum is: 8.660254e-01
For term = 11, the sum is: 8.660254e-01
For term = 12, the sum is: 8.660254e-01
For term = 13, the sum is: 8.660254e-01
For term = 14, the sum is: 8.660254e-01
For term = 15, the sum is: 8.660254e-01
For term = 16, the sum is: 8.660254e-01
For term = 17, the sum is: 8.660254e-01
For term = 18, the sum is: 8.660254e-01
For term = 19, the sum is: 8.660254e-01
For term = 20, the sum is: 8.660254e-01
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The number of terms required to arrive at a convergent value for x[4] = 1.047198e+00 ↙
is 6.


Taylor Series for x[5] = 1.570796e+00 is as follows: -
For term = 1, the sum is: 1.570796e+00
For term = 2, the sum is: 9.248322e-01
For term = 3, the sum is: 1.004525e+00
For term = 4, the sum is: 9.998431e-01
For term = 5, the sum is: 1.000004e+00
For term = 6, the sum is: 9.999999e-01
For term = 7, the sum is: 1.000000e+00
For term = 8, the sum is: 1.000000e+00
For term = 9, the sum is: 1.000000e+00
For term = 10, the sum is: 1
For term = 11, the sum is: 1.000000e+00
For term = 12, the sum is: 1.000000e+00
For term = 13, the sum is: 1.000000e+00
For term = 14, the sum is: 1.000000e+00
For term = 15, the sum is: 1.000000e+00
For term = 16, the sum is: 1.000000e+00
For term = 17, the sum is: 1.000000e+00
For term = 18, the sum is: 1.000000e+00
For term = 19, the sum is: 1.000000e+00
For term = 20, the sum is: 1.000000e+00
The number of terms required to arrive at a convergent value for x[5] = 1.570796e+00 ↙
is 6.


Taylor Series for x[6] = 2.094395e+00 is as follows: -
For term = 1, the sum is: 2.094395e+00
For term = 2, the sum is: 5.632209e-01
For term = 3, the sum is: 8.990450e-01
For term = 4, the sum is: 8.639715e-01
For term = 5, the sum is: 8.661083e-01
For term = 6, the sum is: 8.660231e-01
For term = 7, the sum is: 8.660255e-01
For term = 8, the sum is: 8.660254e-01
For term = 9, the sum is: 8.660254e-01
For term = 10, the sum is: 8.660254e-01
For term = 11, the sum is: 8.660254e-01
For term = 12, the sum is: 8.660254e-01
For term = 13, the sum is: 8.660254e-01
For term = 14, the sum is: 8.660254e-01
For term = 15, the sum is: 8.660254e-01
For term = 16, the sum is: 8.660254e-01
For term = 17, the sum is: 8.660254e-01
For term = 18, the sum is: 8.660254e-01
For term = 19, the sum is: 8.660254e-01
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For term = 20, the sum is: 8.660254e-01
The number of terms required to arrive at a convergent value for x[6] = 2.094395e+00 ↙
is 8.


Taylor Series for x[7] = 3.141593e+00 is as follows: -
For term = 1, the sum is: 3.141593e+00
For term = 2, the sum is: -2.026120e+00
For term = 3, the sum is: 5.240439e-01
For term = 4, the sum is: -7.522062e-02
For term = 5, the sum is: 6.925271e-03
For term = 6, the sum is: -4.451602e-04
For term = 7, the sum is: 2.114257e-05
For term = 8, the sum is: -7.727859e-07
For term = 9, the sum is: 2.241951e-08
For term = 10, the sum is: -5.289183e-10
For term = 11, the sum is: 1.034819e-11
For term = 12, the sum is: -1.702858e-13
For term = 13, the sum is: 2.736111e-15
For term = 14, the sum is: 3.035495e-16
For term = 15, the sum is: 3.331165e-16
For term = 16, the sum is: 3.328028e-16
For term = 17, the sum is: 3.328057e-16
For term = 18, the sum is: 3.328057e-16
For term = 19, the sum is: 3.328057e-16
For term = 20, the sum is: 3.328057e-16
The number of terms required to arrive at a convergent value for x[7] = 3.141593e+00 ↙
is 9.


Taylor Series for x[8] = 6.283185e+00 is as follows: -
For term = 1, the sum is: 6.283185e+00
For term = 2, the sum is: -3.505852e+01
For term = 3, the sum is: 4.654673e+01
For term = 4, the sum is: -3.015913e+01
For term = 5, the sum is: 1.189957e+01
For term = 6, the sum is: -3.195076e+00
For term = 7, the sum is: 6.248765e-01
For term = 8, the sum is: -9.324576e-02
For term = 9, the sum is: 1.098340e-02
For term = 10, the sum is: -1.048183e-03
For term = 11, the sum is: 8.274095e-05
For term = 12, the sum is: -5.494384e-06
For term = 13, the sum is: 3.112686e-07
For term = 14, the sum is: -1.522421e-08
For term = 15, the sum is: 6.494595e-10
For term = 16, the sum is: -2.437637e-11
For term = 17, the sum is: 8.148994e-13
For term = 18, the sum is: -2.082437e-14
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For term = 19, the sum is: 3.945188e-15
For term = 20, the sum is: 3.285361e-15
The number of terms required to arrive at a convergent value for x[8] = 6.283185e+00 ↙
is 14.


Taylor Series for x[9] = 1.347743e+00 is as follows: -
For term = 1, the sum is: 1.347743e+00
For term = 2, the sum is: 9.397338e-01
For term = 3, the sum is: 9.767894e-01
For term = 4, the sum is: 9.751869e-01
For term = 5, the sum is: 9.752273e-01
For term = 6, the sum is: 9.752266e-01
For term = 7, the sum is: 9.752266e-01
For term = 8, the sum is: 9.752266e-01
For term = 9, the sum is: 9.752266e-01
For term = 10, the sum is: 9.752266e-01
For term = 11, the sum is: 9.752266e-01
For term = 12, the sum is: 9.752266e-01
For term = 13, the sum is: 9.752266e-01
For term = 14, the sum is: 9.752266e-01
For term = 15, the sum is: 9.752266e-01
For term = 16, the sum is: 9.752266e-01
For term = 17, the sum is: 9.752266e-01
For term = 18, the sum is: 9.752266e-01
For term = 19, the sum is: 9.752266e-01
For term = 20, the sum is: 9.752266e-01
The number of terms required to arrive at a convergent value for x[9] = 1.347743e+00 ↙
is 6.


Taylor Series for x[10] = 2.145708e+00 is as follows: -
For term = 1, the sum is: 2.145708e+00
For term = 2, the sum is: 4.992125e-01
For term = 3, the sum is: 8.782408e-01
For term = 4, the sum is: 8.366916e-01
For term = 5, the sum is: 8.393484e-01
For term = 6, the sum is: 8.392372e-01
For term = 7, the sum is: 8.392405e-01
For term = 8, the sum is: 8.392405e-01
For term = 9, the sum is: 8.392405e-01
For term = 10, the sum is: 8.392405e-01
For term = 11, the sum is: 8.392405e-01
For term = 12, the sum is: 8.392405e-01
For term = 13, the sum is: 8.392405e-01
For term = 14, the sum is: 8.392405e-01
For term = 15, the sum is: 8.392405e-01
For term = 16, the sum is: 8.392405e-01
For term = 17, the sum is: 8.392405e-01
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For term = 18, the sum is: 8.392405e-01
For term = 19, the sum is: 8.392405e-01
For term = 20, the sum is: 8.392405e-01
The number of terms required to arrive at a convergent value for x[10] = 2.145708e+00 ↙
is 7.
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