

The Taylor Series for $\tan x$ 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: NaN
For term = 3, the sum is: NaN
For term = 4, the sum is: NaN
For term = 5, the sum is: NaN
For term = 6, the sum is: NaN
For term = 7, the sum is: NaN
For term = 8, the sum is: NaN
For term = 9, the sum is: NaN
For term = 10, the sum is: NaN
For term = 11, the sum is: NaN
For term = 12, the sum is: NaN
For term = 13, the sum is: NaN
For term = 14, the sum is: NaN
For term = 15, the sum is: NaN
For term = 16, the sum is: NaN
For term = 17, the sum is: NaN
For term = 18, the sum is: NaN
For term = 19, the sum is: NaN
For term = 20, the sum is: NaN

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: 6.981317e-01
For term = 3, the sum is: 8.028515e-01
For term = 4, the sum is: 8.776513e-01
For term = 5, the sum is: 9.358289e-01
For term = 6, the sum is: 9.834288e-01
For term = 7, the sum is: 1.023706e+00
For term = 8, the sum is: 1.058612e+00
For term = 9, the sum is: 1.089412e+00
For term = 10, the sum is: 1.116970e+00
For term = 11, the sum is: 1.141903e+00
For term = 12, the sum is: 1.164668e+00
For term = 13, the sum is: 1.185612e+00
For term = 14, the sum is: 1.205005e+00
For term = 15, the sum is: 1.223060e+00
For term = 16, the sum is: 1.239950e+00
For term = 17, the sum is: 1.255817e+00
For term = 18, the sum is: 1.270777e+00
For term = 19, the sum is: 1.284928e+00
For term = 20, the sum is: 1.298354e+00

Taylor Series for $x[3] = 7.853982e-01$ is as follows: -

For term = 1, the sum is: 7.853982e-01

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For term = 2, the sum is: 1.047198e+00
For term = 3, the sum is: 1.204277e+00
For term = 4, the sum is: 1.316477e+00
For term = 5, the sum is: 1.403743e+00
For term = 6, the sum is: 1.475143e+00
For term = 7, the sum is: 1.535558e+00
For term = 8, the sum is: 1.587918e+00
For term = 9, the sum is: 1.634118e+00
For term = 10, the sum is: 1.675455e+00
For term = 11, the sum is: 1.712855e+00
For term = 12, the sum is: 1.747003e+00
For term = 13, the sum is: 1.778419e+00
For term = 14, the sum is: 1.807507e+00
For term = 15, the sum is: 1.834590e+00
For term = 16, the sum is: 1.859926e+00
For term = 17, the sum is: 1.883725e+00
For term = 18, the sum is: 1.906165e+00
For term = 19, the sum is: 1.927392e+00
For term = 20, the sum is: 1.947531e+00
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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: 1.396263e+00
For term = 3, the sum is: 1.605703e+00
For term = 4, the sum is: 1.755303e+00
For term = 5, the sum is: 1.871658e+00
For term = 6, the sum is: 1.966858e+00
For term = 7, the sum is: 2.047411e+00
For term = 8, the sum is: 2.117224e+00
For term = 9, the sum is: 2.178824e+00
For term = 10, the sum is: 2.233940e+00
For term = 11, the sum is: 2.283807e+00
For term = 12, the sum is: 2.329337e+00
For term = 13, the sum is: 2.371225e+00
For term = 14, the sum is: 2.410010e+00
For term = 15, the sum is: 2.446120e+00
For term = 16, the sum is: 2.479901e+00
For term = 17, the sum is: 2.511634e+00
For term = 18, the sum is: 2.541554e+00
For term = 19, the sum is: 2.569856e+00
For term = 20, the sum is: 2.596708e+00
```

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: 2.094395e+00
For term = 3, the sum is: 2.408554e+00
For term = 4, the sum is: 2.632954e+00
For term = 5, the sum is: 2.807487e+00
For term = 6, the sum is: 2.950286e+00
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For term = 7, the sum is: 3.071117e+00
For term = 8, the sum is: 3.175837e+00
For term = 9, the sum is: 3.268236e+00
For term = 10, the sum is: 3.350910e+00
For term = 11, the sum is: 3.425710e+00
For term = 12, the sum is: 3.494005e+00
For term = 13, the sum is: 3.556837e+00
For term = 14, the sum is: 3.615015e+00
For term = 15, the sum is: 3.669180e+00
For term = 16, the sum is: 3.719851e+00
For term = 17, the sum is: 3.767451e+00
For term = 18, the sum is: 3.812331e+00
For term = 19, the sum is: 3.854785e+00
For term = 20, the sum is: 3.895062e+00
```

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: 2.792527e+00
For term = 3, the sum is: 3.211406e+00
For term = 4, the sum is: 3.510605e+00
For term = 5, the sum is: 3.743316e+00
For term = 6, the sum is: 3.933715e+00
For term = 7, the sum is: 4.094823e+00
For term = 8, the sum is: 4.234449e+00
For term = 9, the sum is: 4.357649e+00
For term = 10, the sum is: 4.467880e+00
For term = 11, the sum is: 4.567613e+00
For term = 12, the sum is: 4.658674e+00
For term = 13, the sum is: 4.742449e+00
For term = 14, the sum is: 4.820020e+00
For term = 15, the sum is: 4.892240e+00
For term = 16, the sum is: 4.959801e+00
For term = 17, the sum is: 5.023268e+00
For term = 18, the sum is: 5.083108e+00
For term = 19, the sum is: 5.139713e+00
For term = 20, the sum is: 5.193415e+00
```

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: 4.188790e+00
For term = 3, the sum is: 4.817109e+00
For term = 4, the sum is: 5.265908e+00
For term = 5, the sum is: 5.614974e+00
For term = 6, the sum is: 5.900573e+00
For term = 7, the sum is: 6.142234e+00
For term = 8, the sum is: 6.351673e+00
For term = 9, the sum is: 6.536473e+00
For term = 10, the sum is: 6.701820e+00
For term = 11, the sum is: 6.851420e+00
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For term = 12, the sum is: 6.988011e+00
For term = 13, the sum is: 7.113674e+00
For term = 14, the sum is: 7.230030e+00
For term = 15, the sum is: 7.338360e+00
For term = 16, the sum is: 7.439702e+00
For term = 17, the sum is: 7.534902e+00
For term = 18, the sum is: 7.624662e+00
For term = 19, the sum is: 7.709569e+00
For term = 20, the sum is: 7.790123e+00
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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: 8.377580e+00
For term = 3, the sum is: 9.634217e+00
For term = 4, the sum is: 1.053182e+01
For term = 5, the sum is: 1.122995e+01
For term = 6, the sum is: 1.180115e+01
For term = 7, the sum is: 1.228447e+01
For term = 8, the sum is: 1.270335e+01
For term = 9, the sum is: 1.307295e+01
For term = 10, the sum is: 1.340364e+01
For term = 11, the sum is: 1.370284e+01
For term = 12, the sum is: 1.397602e+01
For term = 13, the sum is: 1.422735e+01
For term = 14, the sum is: 1.446006e+01
For term = 15, the sum is: 1.467672e+01
For term = 16, the sum is: 1.487940e+01
For term = 17, the sum is: 1.506980e+01
For term = 18, the sum is: 1.524932e+01
For term = 19, the sum is: 1.541914e+01
For term = 20, the sum is: 1.558025e+01
```

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: 1.796991e+00
For term = 3, the sum is: 2.066540e+00
For term = 4, the sum is: 2.259074e+00
For term = 5, the sum is: 2.408824e+00
For term = 6, the sum is: 2.531346e+00
For term = 7, the sum is: 2.635018e+00
For term = 8, the sum is: 2.724868e+00
For term = 9, the sum is: 2.804147e+00
For term = 10, the sum is: 2.875081e+00
For term = 11, the sum is: 2.939259e+00
For term = 12, the sum is: 2.997857e+00
For term = 13, the sum is: 3.051766e+00
For term = 14, the sum is: 3.101683e+00
For term = 15, the sum is: 3.148157e+00
For term = 16, the sum is: 3.191632e+00
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For term = 17, the sum is: 3.232473e+00
For term = 18, the sum is: 3.270980e+00
For term = 19, the sum is: 3.307405e+00
For term = 20, the sum is: 3.341963e+00
```

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: 2.860944e+00
For term = 3, the sum is: 3.290085e+00
For term = 4, the sum is: 3.596615e+00
For term = 5, the sum is: 3.835027e+00
For term = 6, the sum is: 4.030091e+00
For term = 7, the sum is: 4.195146e+00
For term = 8, the sum is: 4.338193e+00
For term = 9, the sum is: 4.464411e+00
For term = 10, the sum is: 4.577343e+00
For term = 11, the sum is: 4.679520e+00
For term = 12, the sum is: 4.772811e+00
For term = 13, the sum is: 4.858640e+00
For term = 14, the sum is: 4.938110e+00
For term = 15, the sum is: 5.012100e+00
For term = 16, the sum is: 5.081316e+00
For term = 17, the sum is: 5.146338e+00
For term = 18, the sum is: 5.207644e+00
For term = 19, the sum is: 5.265636e+00
For term = 20, the sum is: 5.320654e+00>>
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