

$$f(x) = xe^x - \cos x$$

r	x_r	f(x_r)	f'(x_r)	x_{r+1}
1	0.58899	0.229956	3.419147	0.521735
2	0.521735	0.012139	3.062428	0.517771
3	0.517771	4.01E-05	3.042191	0.517757
4	0.517757	4.43E-10	3.042124	0.517757
5	0.517757	-7.9E-17	3.042124	0.517757
6	0.517757	-7.9E-17	3.042124	0.517757
7	0.517757	-7.9E-17	3.042124	0.517757
8	0.517757	-7.9E-17	3.042124	0.517757
9	0.517757			

x	f(x)	
	0	-1
	1	2.17798

Take x_1=0.58899

$f(x) = e^{xsinx}-1$

r	x_r	$f(x_r)$	$f'(x_r)$	x_{r+1}
1	0.5	-0.20956	2.237328	0.593666
2	0.593666	0.012863	2.513673	0.588548
3	0.588548	3.93E-05	2.498326	0.588533
4	0.588533	3.7E-10	2.498278	0.588533
5	0.588533	4.12E-17	2.498278	0.588533
6	0.588533	4.12E-17	2.498278	0.588533
7	0.588533	4.12E-17	2.498278	0.588533
8	0.588533	4.12E-17	2.498278	0.588533
9	0.588533			

x	$f(x)$
0	-1
1	1.287355

Take $x_1=0.5$