

$$p(X) = \frac{1}{\sqrt{2\pi s^2}} e^{-\frac{(X-m)^2}{2s^2}}$$

a)

-1.05	0.022988214	0.011494107
-0.95	0.025405906	0.025405906
-0.85	0.027798489	0.027798489
-0.75	0.030113743	0.030113743
-0.65	0.032297236	0.032297236
-0.55	0.034294386	0.034294386
-0.45	0.036052696	0.036052696
-0.35	0.037524035	0.037524035
-0.25	0.038666812	0.038666812
-0.15	0.039447933	0.039447933
-0.05	0.039844391	0.039844391
0.05	0.039844391	0.039844391
0.15	0.039447933	0.039447933
0.25	0.038666812	0.038666812
0.35	0.037524035	0.037524035
0.45	0.036052696	0.036052696
0.55	0.034294386	0.017147193

b)

0.15
0.25
0.35
0.45
0.55
0.65
0.75
0.85
0.95
1.05
1.15
1.25
1.35
1.45
1.55
1.65
1.75

The value for the area using
the mid-ordinate method 0.561622793

The value for the area using
the Z tables 0.5619

Difference 0.000277207

% Difference 0.049358224

-1.55	0.0120009	0.00600045
-1.45	0.013943057	0.013943057
-1.35	0.016038333	0.016038333
-1.25	0.018264909	0.018264909
-1.15	0.020593627	0.020593627
-1.05	0.022988214	0.022988214
-0.95	0.025405906	0.025405906
-0.85	0.027798489	0.027798489
-0.75	0.030113743	0.030113743
-0.65	0.032297236	0.032297236
-0.55	0.034294386	0.034294386
-0.45	0.036052696	0.036052696
-0.35	0.037524035	0.037524035
-0.25	0.038666812	0.038666812
-0.15	0.039447933	0.039447933
-0.05	0.039844391	0.039844391
0.05	0.039844391	0.019922196

The value for the area using
the mid-ordinate method 0.459196411

The value for the area using the Z tables	0.4593
Difference	0.000103589
% Difference	0.02255883

0.039447933	0.019723967
0.038666812	0.038666812
0.037524035	0.037524035
0.036052696	0.036052696
0.034294386	0.034294386
0.032297236	0.032297236
0.030113743	0.030113743
0.027798489	0.027798489
0.025405906	0.025405906
0.022988214	0.022988214
0.020593627	0.020593627
0.018264909	0.018264909
0.016038333	0.016038333
0.013943057	0.013943057
0.0120009	0.0120009
0.010226492	0.010226492
0.008627732	0.004313866

The value for the area using the mid-ordinate method	0.400246665
The value for the area using the Z tables	0.4003
Difference	0.00005333
% Difference	0.013325424

