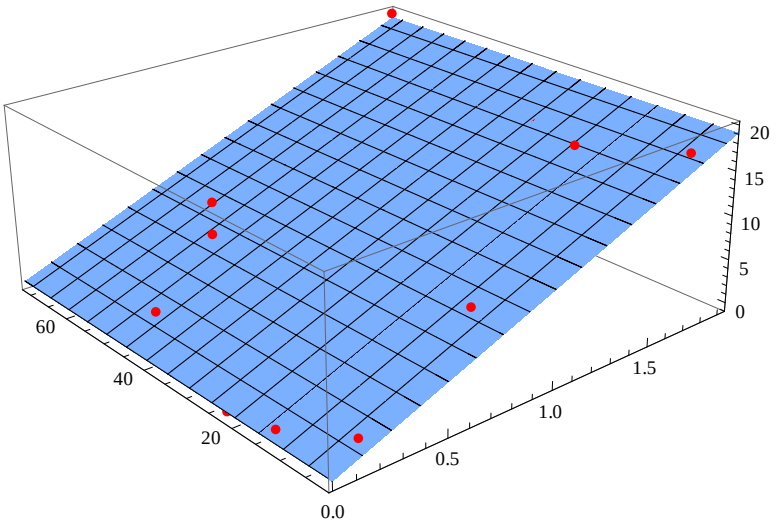
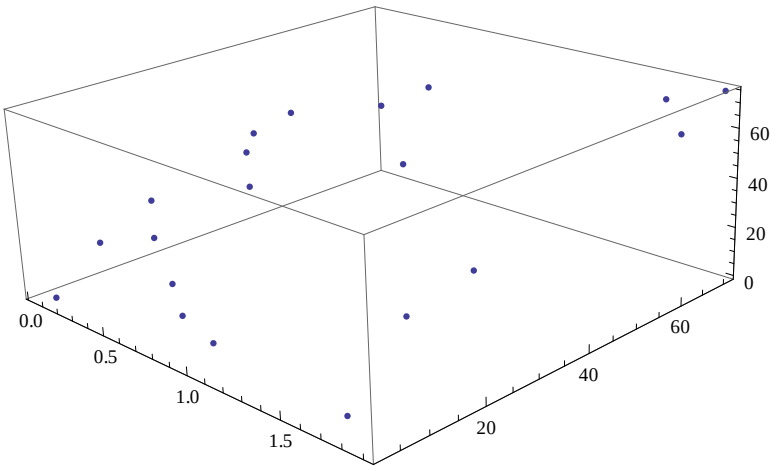
```
Exit[]

L = Table[{RandomReal[] * 2, Prime[x]}, {x, 20}];

model = a x + b y;

f[x_, y_] := 10 x + Sin[y];
l = Table[{L[[i, 1]], L[[i, 2]], f[L[[i, 1]], L[[i, 2]]]}, {i, Length[L]}];
fi = FindFit[l, model, {a, b}, {x, y}]
```

```
{a → 9.87363, b → -0.00136828}
```

```
Show[ListPointPlot3D[l, PlotStyle → Directive[PointSize[Medium], Red]],
 Plot3D[model /. fi, {x, 0, 2}, {y, 0, 80}]]
```




```
Show[%, Plot[model /.%, {x, 0, 2}, {y, 0, 80}]]
```

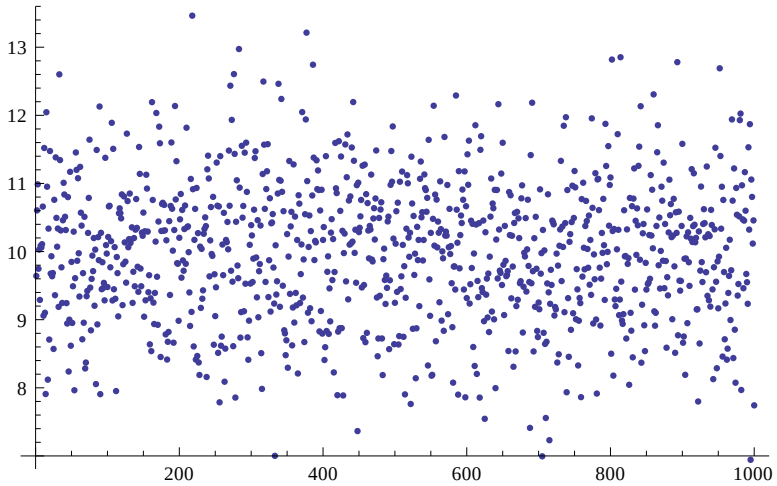


Normal

```
PDF[NormalDistribution[a, b], x]
```

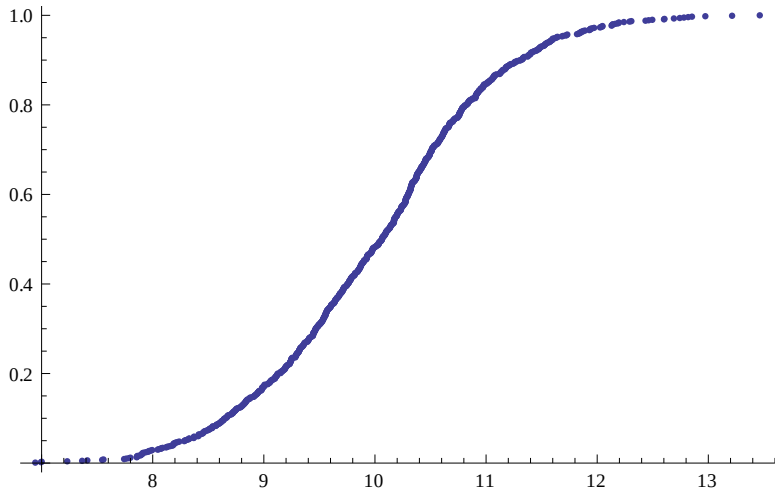
```
L = RandomReal[NormalDistribution[10, 1], 1000];
```

```
ListPlot[L]
```




```
n = Length[L]; Ls = Sort[L]; F = Table[{Ls[[i]], i / n}, {i, 1, n}];
```

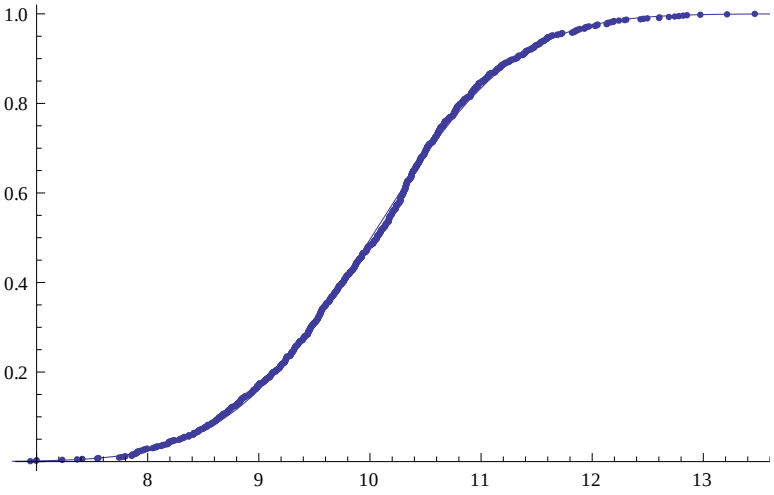
```
ListPlot[F]
```




```
fi = FindFit[F, CDF[NormalDistribution[a, b], x], {a, b}, x]
```

```
{a → 10.01, b → 1.01656}
```

```
Show[ListPlot[F], Plot[CDF[NormalDistribution[a, b], x] /. fi, {x, 6, 14}]]
```




```
CDF[NormalDistribution[a, b], x]
```

$$\frac{1}{2}\left(1+\text{Erf}\left[\frac{-a+x}{\sqrt{2}\ b}\right]\right)$$

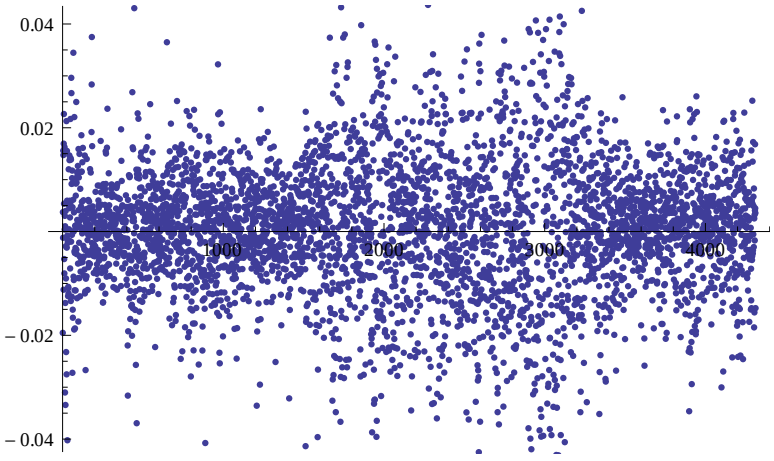
DAX

fit

```
g[[1]]
```

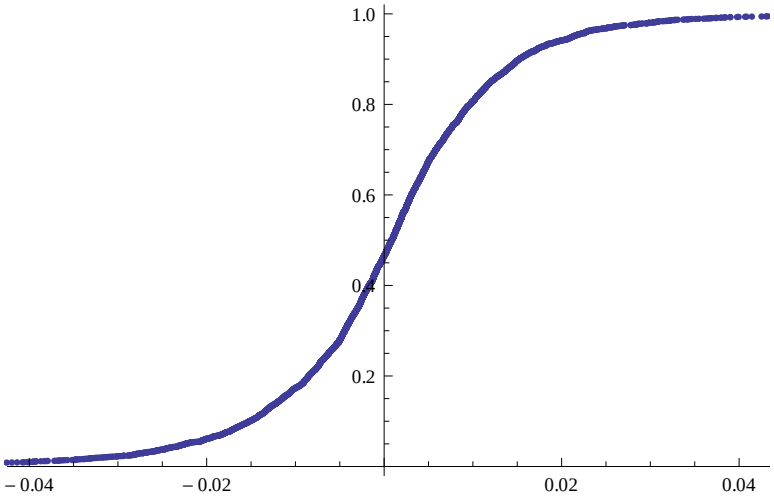
```
1443.2
```

```
d = Differences[Log /@ g]; ListPlot[d]
```




```
n = Length[d]; ds = Sort[d]; F = Sort[Table[{ds[[i]], i / n}, {i, 1, n}]];
```

```
ListPlot[F]
```




```
model = b / Abs[x - u] ^ (1 + a)
```

$$b\ \text{Abs}[-u+x]^{-1-a}$$

```
model = CDF[NormalDistribution[a, b], x]
```

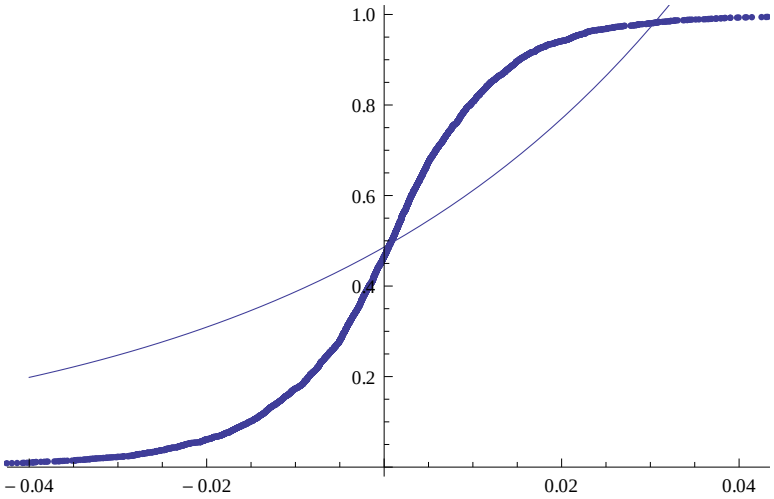
$$\frac{1}{2}\left(1+\text{Erf}\left[\frac{-a+x}{\sqrt{2}\ b}\right]\right)$$

```
fi = FindFit[F, model, {a, b, u}, x]
```

FindFit::cvmit : Failed to converge to the requested accuracy or precision within 100 iterations. ≫

$\{a \to 26.5444, b \to 89.7156, u \to 1.20858\}$

```
Show[ListPlot[{F}], Plot[model /. fi, {x, -0.04, 0.04}]]
```




```
StandardDeviation[NormalDistribution[a, b]] /. fi
```

0.0108574

```
Sum[F[[i, 1]] * (F[[i + 1, 2]] - F[[i, 2]]), {i, 1, n - 1}] // N
```

```
0.00037817
```

```
StandardDeviation[ds]
```

```
0.0137907
```

```
2500 * .01
```

```
25.
```

```
100
```

```
100
```

```
Sum[25^i Exp[-25] / i!, {i, 0, 20}] // N
```

```
0.185492
```

```
Sum[2500! / k! / (2500 - k)! .01^k (1 - .01)^(2500 - k), {k, 0, 20}]
```

```
0.184188
```