

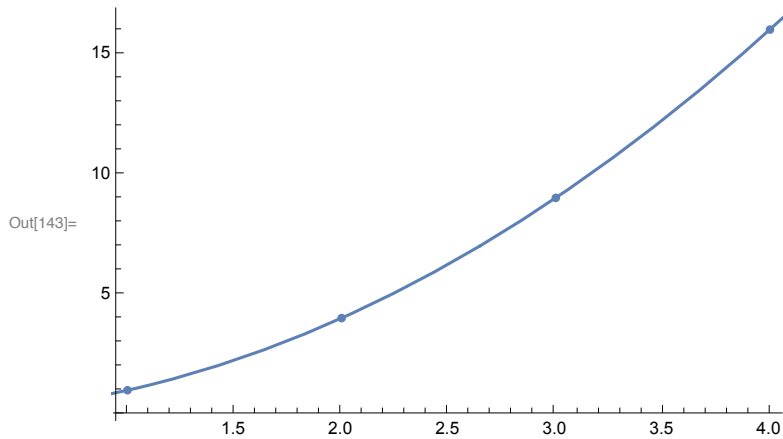
In[132]:= **data1 = {{1, 1}, {2, 4}, {3, 9}, {4, 16}}**

Out[132]= {{1, 1}, {2, 4}, {3, 9}, {4, 16}}

In[145]:= **FindFit[data1, a * x ^ b, {a, b}, x]**

Out[145]= {a → 1., b → 2.}

In[143]:= **Show[ListPlot[data1], Plot[{1 x ^ 2}, {x, 0, 10}]]**



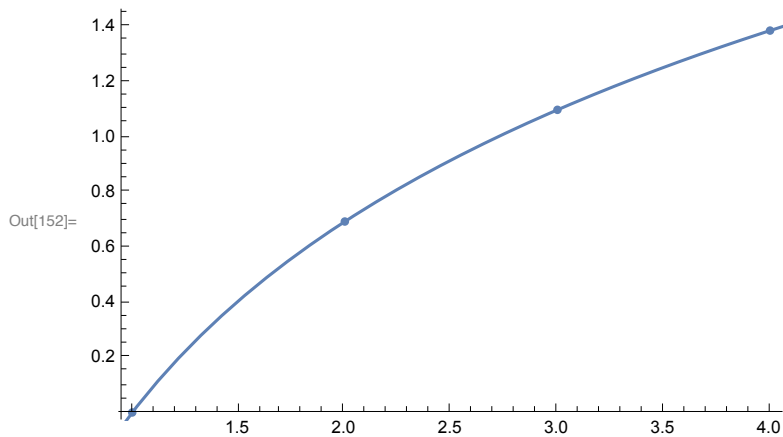
In[144]:= **data2 = {{1, 0}, {2, 0.69314718055994},
{3, 1.09861228866811}, {4, 1.38629436111989}}**

Out[144]= {{1, 0}, {2, 0.693147}, {3, 1.09861}, {4, 1.38629}}

In[146]:= **FindFit[data2, a + b * Log[x], {a, b}, x]**

Out[146]= {a → -1.44329×10^{-15} , b → 1.}

In[152]:= **Show[ListPlot[data2], Plot[{0 + 1 * Log[x]}, {x, 0, 5}]]**



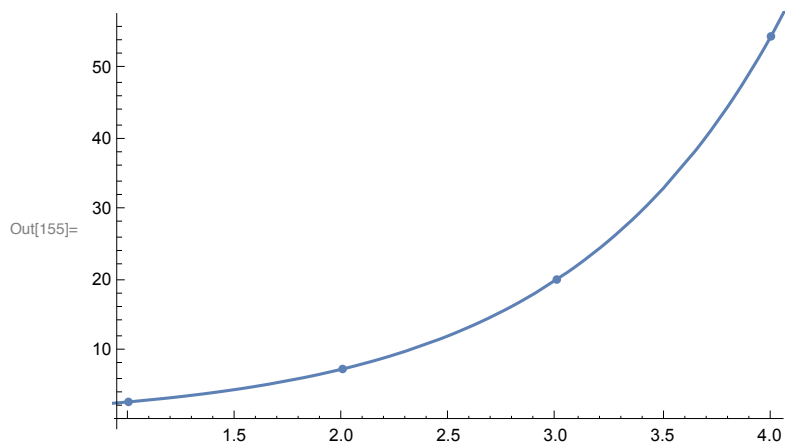
In[153]:= **data3 = {{1, 2.71828182845905}, {2, 7.38905609893065},
{3, 20.0855369231877}, {4, 54.5981500331442}}**

Out[153]= {{1, 2.71828}, {2, 7.38906}, {3, 20.0855}, {4, 54.5982}}

In[154]:= **FindFit[data3, a * Exp[b * x], {a, b}, x]**

Out[154]= {a → 1., b → 1.}

In[155]:= `Show[ListPlot[data3], Plot[{1 * Exp[1 * x]}, {x, 0, 60}]]`



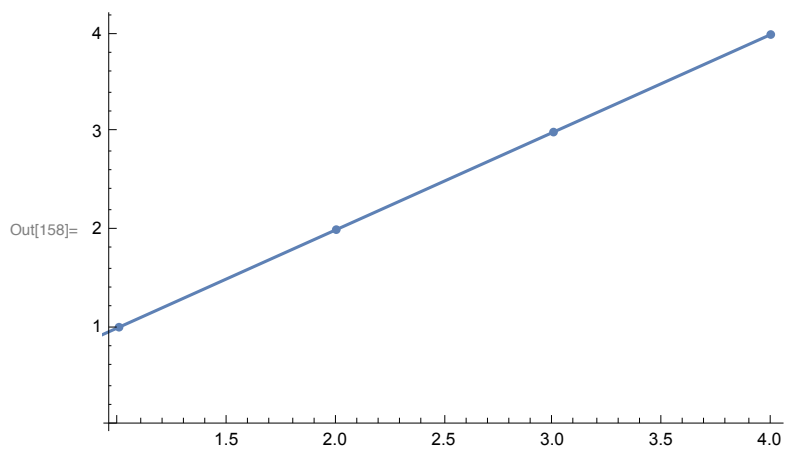
In[156]:= `data4 = {{1, 1}, {2, 2}, {3, 3}, {4, 4}}`

Out[156]= `{{1, 1}, {2, 2}, {3, 3}, {4, 4}}`

In[157]:= `FindFit[data4, a + b * x, {a, b}, x]`

Out[157]= `{a -> -2.22045 × 10-16, b -> 1.}`

In[158]:= `Show[ListPlot[data4], Plot[{0 + 1 * x}, {x, 0, 4}]]`



In[111]:= `lm = LinearModelFit[data4, x, x]`

Out[111]= `FittedModel[0. + 1. x]`

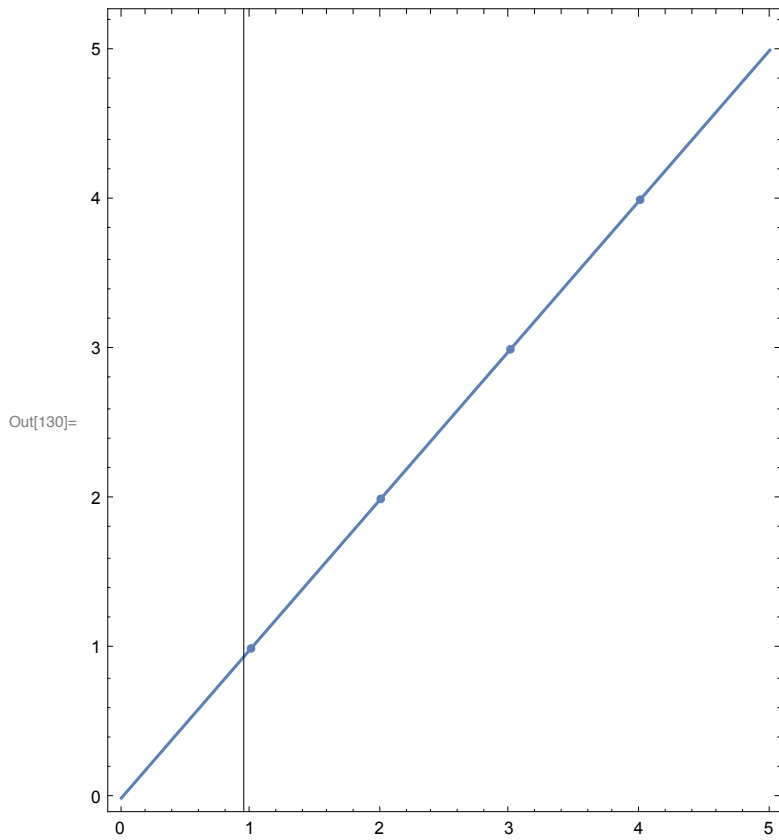
In[112]:= `Normal[lm]`

Out[112]= `0. + 1. x`

In[113]:= `lm[2.3]`

Out[113]= `2.3`

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In[130]:= Show[ListPlot[data4], Plot[lm[x], {x, 0, 5}],  
Frame → True, PlotRange → {{0, 5}, {0, 5}}, AspectRatio → Full]
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In[131]:= Plot[x, {x, 0, 5}, Frame → True,  
PlotRange → {{0, 5}, {0, 5}}, AspectRatio → Full]
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