

# Exponenciální funkce

je každá fce určena předpisem

$$y = a^x$$

$$a \neq 0 \wedge a \neq 1$$

$D(f) =$

$H(f) =$

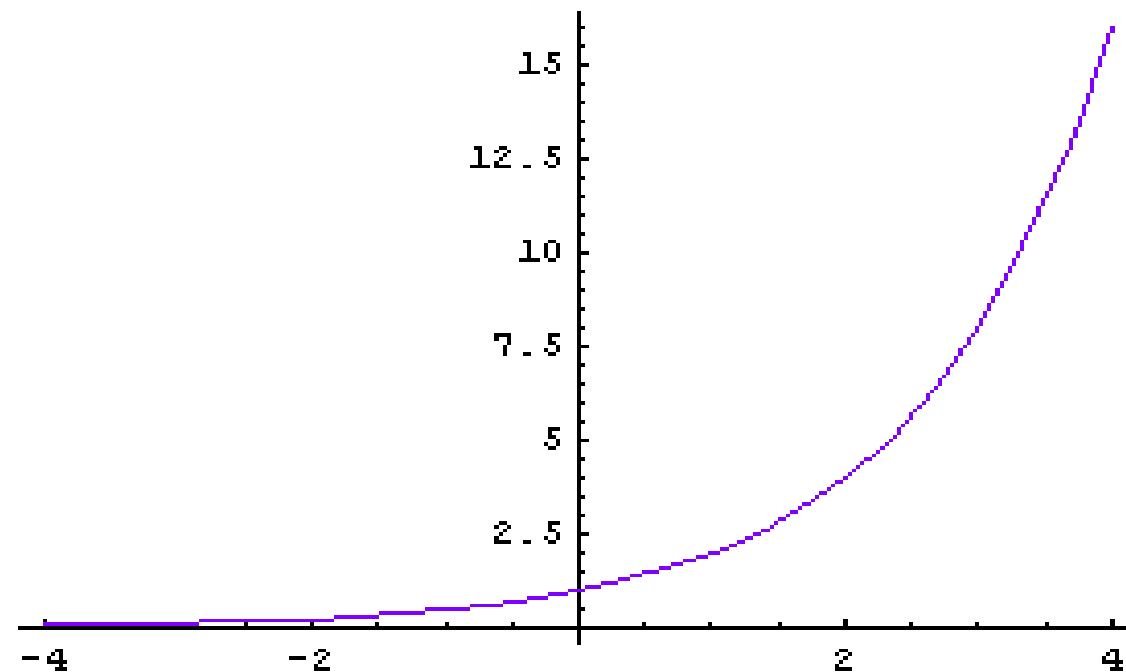
$$a = 2 \Rightarrow$$

$$y = 2^x$$

-4	-3	-2	-1	0	1	2	3	4	5

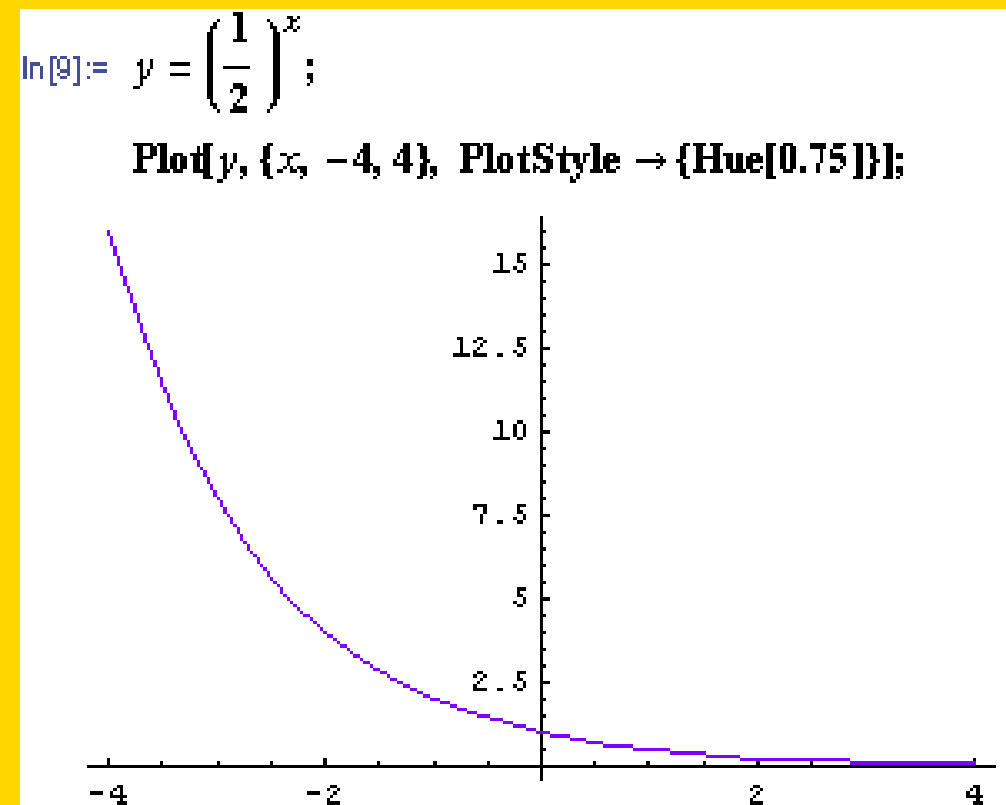
```
In[7]:= y = 2^x;
```

```
Plot[y, {x, -4, 4}, PlotStyle -> {Hue[0.75]}];
```



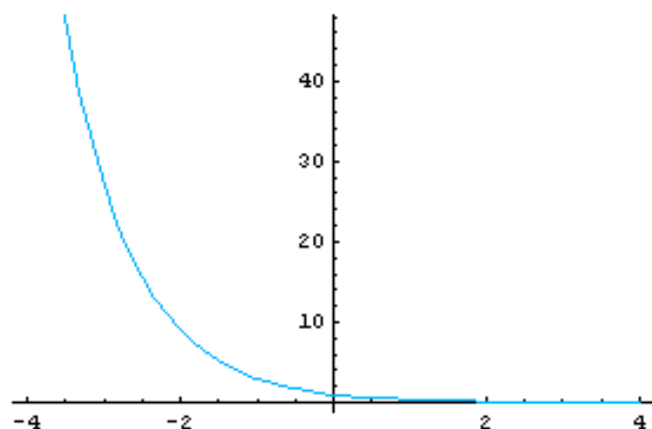
$$y = \left(\frac{1}{2}\right)^x$$

-4	-3	-2	-1	0	1	2	3	4	5



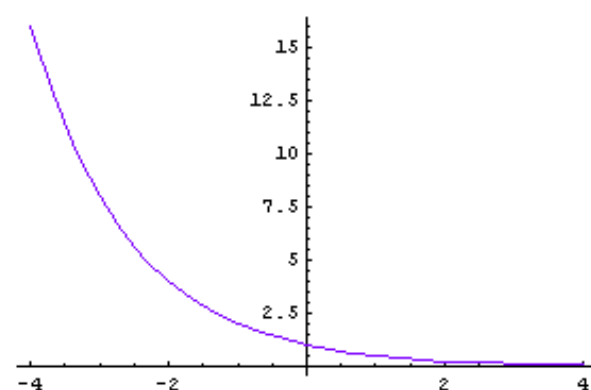
```
In[11]:= y =  $\left(\frac{1}{3}\right)^x$ ;
```

```
Plot[y, {x, -4, 4}, PlotStyle -> {Hue[0.55]}];
```



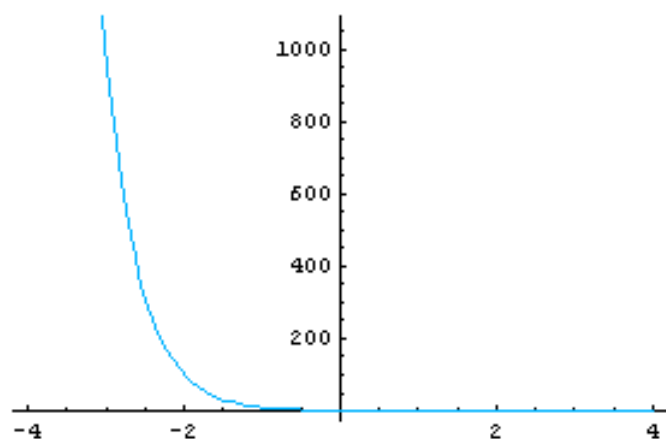
```
In[9]:= y =  $\left(\frac{1}{2}\right)^x$ ;
```

```
Plot[y, {x, -4, 4}, PlotStyle -> {Hue[0.75]}];
```



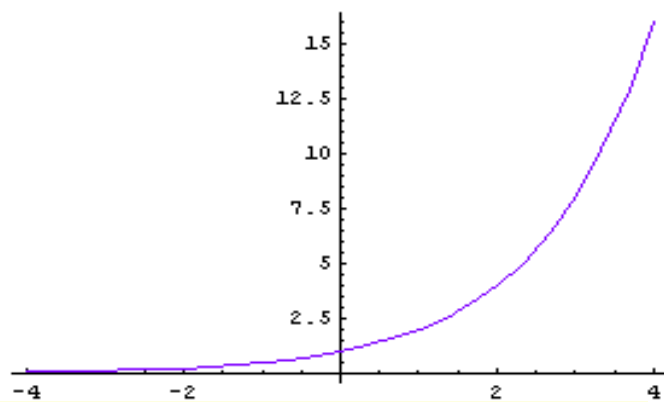
```
In[13]:= y =  $\left(\frac{1}{10}\right)^x$ ;
```

```
Plot[y, {x, -4, 4}, PlotStyle -> {Hue[0.55]}];
```



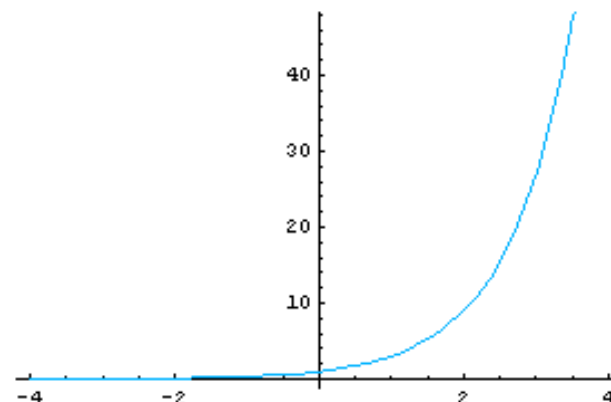
```
In[7]:= y = 2x;
```

```
Plot[y, {x, -4, 4}, PlotStyle -> {Hue[0.75]}];
```



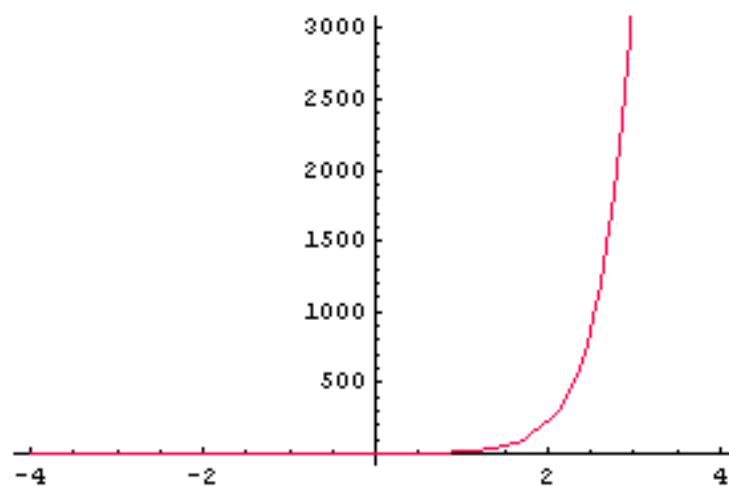
```
]:= y = 3x;
```

```
Plot[y, {x, -4, 4}, PlotStyle -> {Hue[0.55]}];
```



```
In[17]:= y = 15x;
```

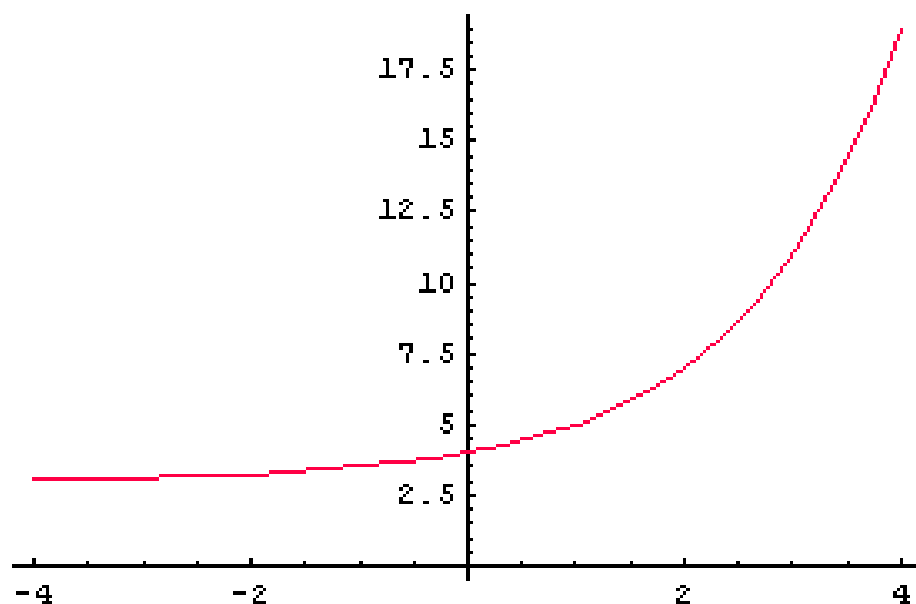
```
Plot[y, {x, -4, 4}, PlotStyle -> {Hue[0.955]}];
```



$$y = 2^x + 3$$

```
In[19]:= y = 2x + 3;
```

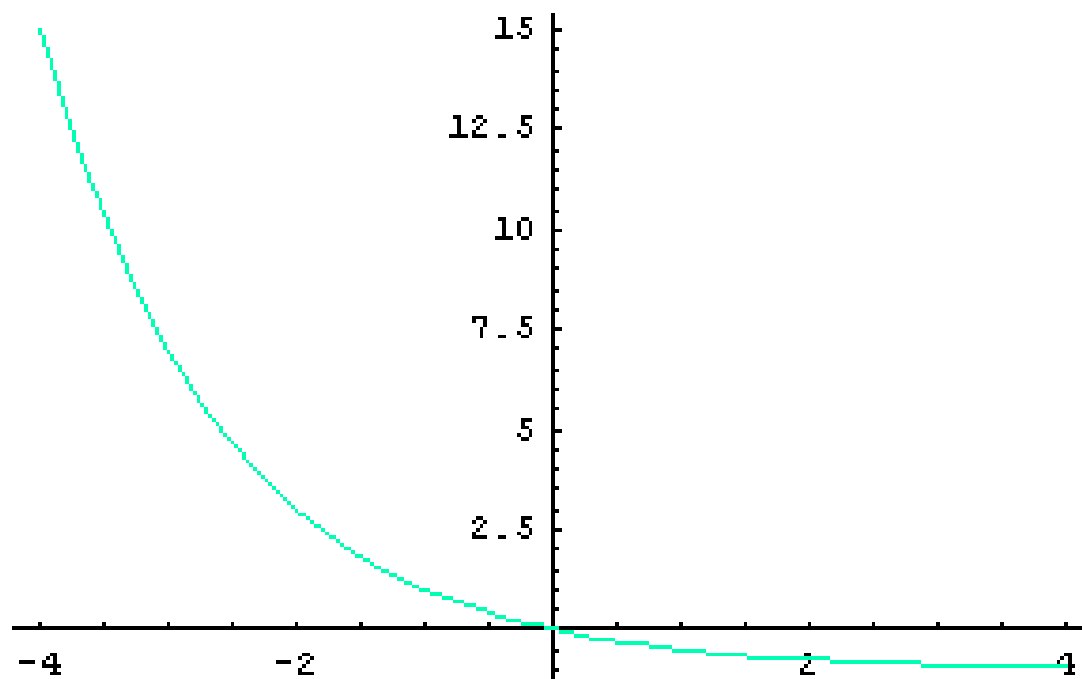
```
Plot[y, {x, -4, 4}, PlotStyle -> {Hue[0.955]}];
```



$$y = \left(\frac{1}{2}\right)^x - 1;$$

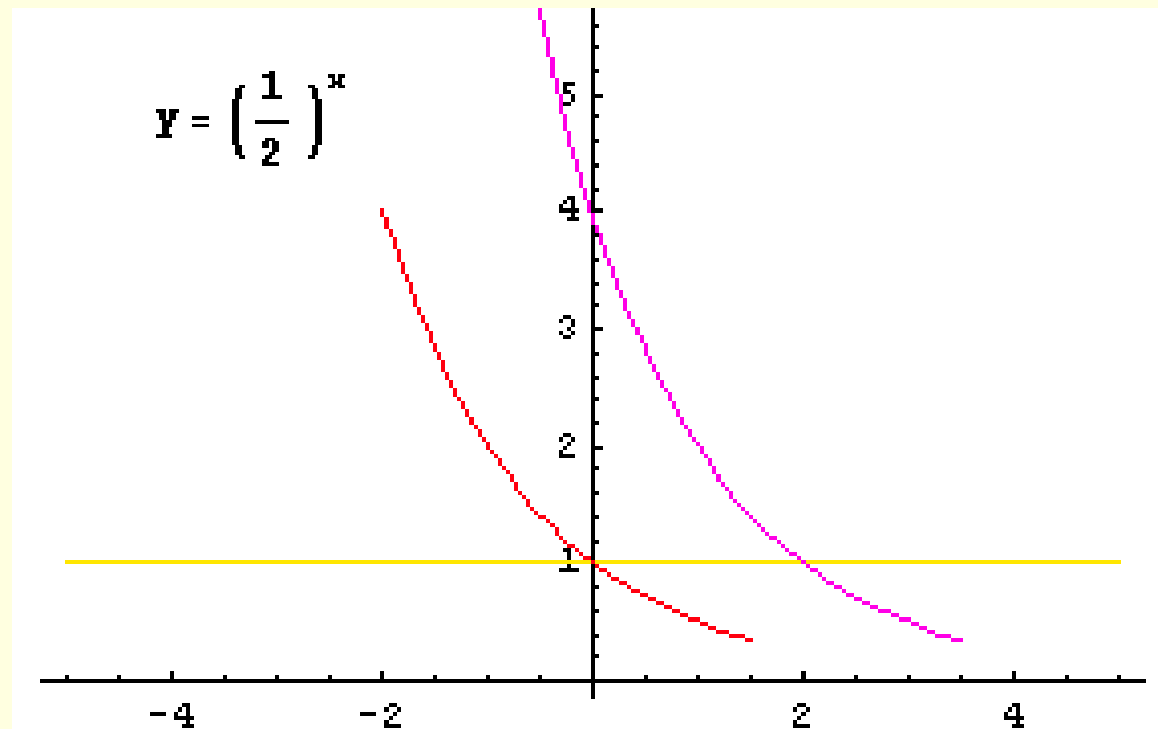
```
In[25]:= y =  $\left(\frac{1}{2}\right)^x - 1;$ 
```

```
Plot[y, {x, -4, 4}, PlotStyle -> {Hue[0.45]}];
```



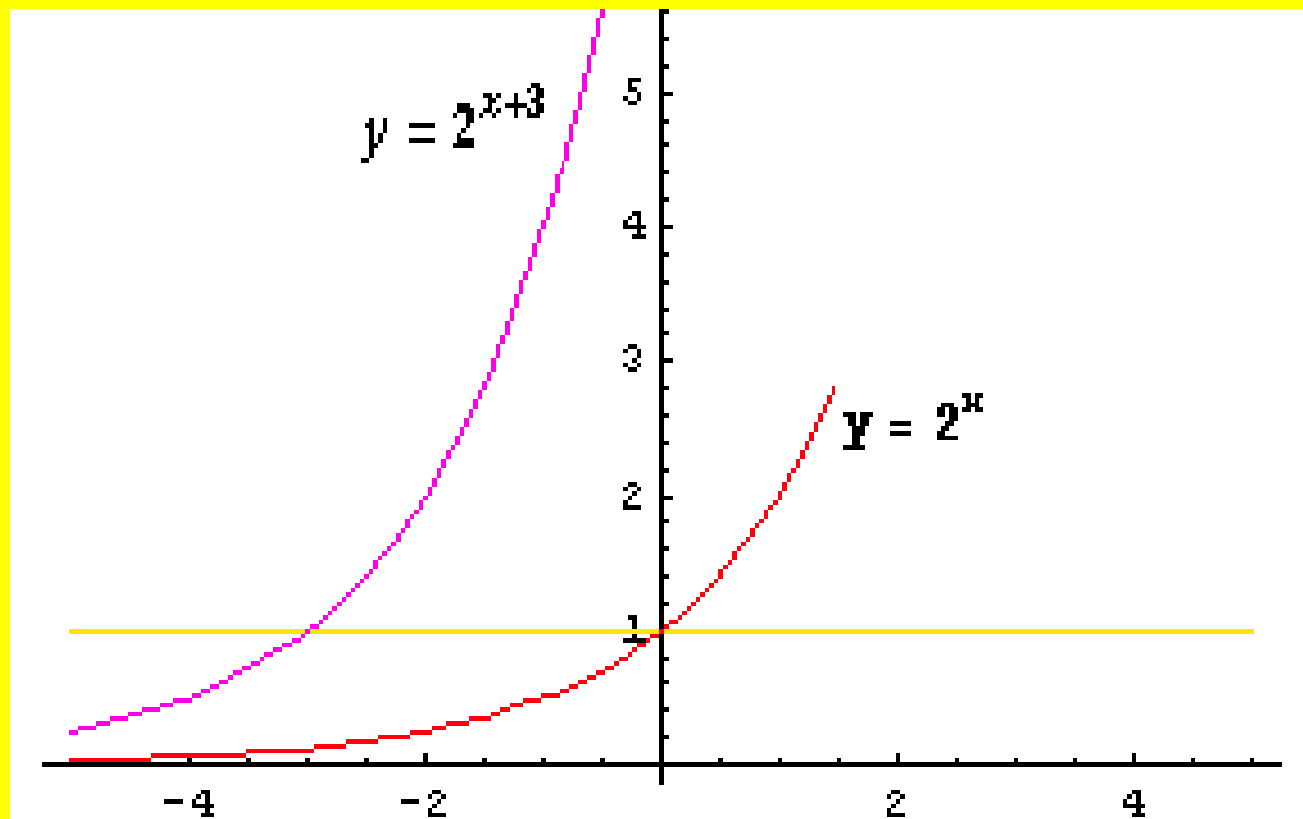
$$y = \left(\frac{1}{2}\right)^{x-2}$$

$$y = \left(\frac{1}{2}\right)^{x-2}$$





$$y = 2^{x+3}$$



Sestrojte grafy funkcí:

$$y = \left(\frac{1}{2}\right)^{x-2} - 4$$

$$y = \left|2^{x-1} - 5\right|$$

$$y = 2^{x+3} + 1$$

$$y = -2^{x+1}$$

$$y = \left(\frac{1}{3}\right)^{x+2} + 2$$

$$y = -2^{x-2} + 1$$

$$y = 4^{x-1} + 2$$