

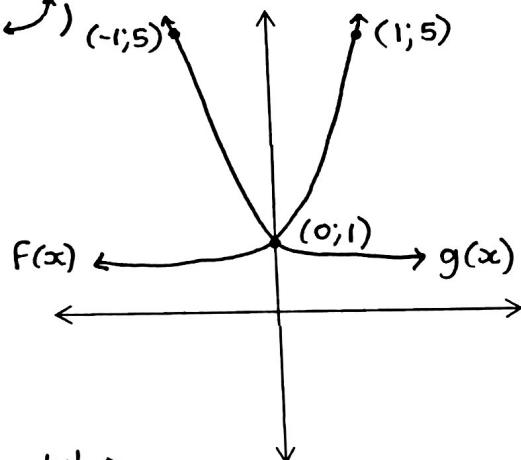
WISKUNDE:

MAANDAG: Eksponensiële funksie:

$$\begin{aligned}
 &\rightarrow y = b^x \\
 &\quad \hookrightarrow \text{waar } b > 0 \text{ en } b \neq 1 \\
 &\rightarrow y = a \cdot b^x \\
 &\quad \hookrightarrow \text{vorm } \curvearrowleft \curvearrowright \curvearrowright \curvearrowleft \\
 &\rightarrow y = a \cdot b^x + q \\
 &\quad \hookrightarrow \text{asimptoot} \\
 &\quad \quad (\text{geen } q \rightarrow \text{asimptoot by } 0!)
 \end{aligned}$$

Skets grafiese van die vorm: $y = b^x$

- 1.1. $f(x) = 5^x$ (b heelgetal en $\stackrel{\text{bo!}}{+}$)
- y -afsnit: $(x=0) \rightarrow y=1 (0;1)$
 - enige punt: (kies!) $x=1: (1;5)$
 - asimptoot: $+q (y=0)$
 - def. versameling: $x \in \mathbb{R}$
 - waardeversameling: $y: (0; \infty)$



$$g(x) = 5^{-x} = \left(\frac{1}{5}\right)^x \text{ (b breuk en } \stackrel{\text{bo!}}{+} \text{)}$$

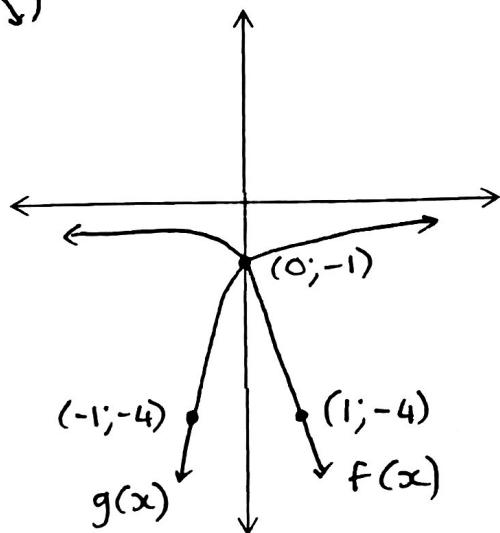
- y -afsnit: $(x=0) \rightarrow y=1 (0;1)$
- enige punt (kies!) $x=-1: (-1;5)$
- asimptote: $+q (y=0)$
- def. versameling: $x \in \mathbb{R}$
- waardeversameling: $y: (0; \infty)$

1.2. $f(x) = -4^x$ (b heelgetal en $-$: onder!)

- y-afsnit: ($x=0$): $y = -1$ ($0; -1$)
- enige punt (kies!) $x = 1$ ($1; -4$)
- asymptote: +q ($y = 0$)
- def. versameling: $x \in \mathbb{R}$
- waardeversameling: $y : (-\infty; 0)$

1.3. $g(x) = (-4)^{-x} = -\left(\frac{1}{4}\right)^x$

- y-afsnit: ($x=0$): $y = -1$ ($0; -1$)
- enige punt (kies!) $x = -1$ ($-1; -4$)
- asymptote: +q ($y = 0$)
- def. versameling: $x \in \mathbb{R}$
- waardeversameling: $y : (-\infty; 0)$

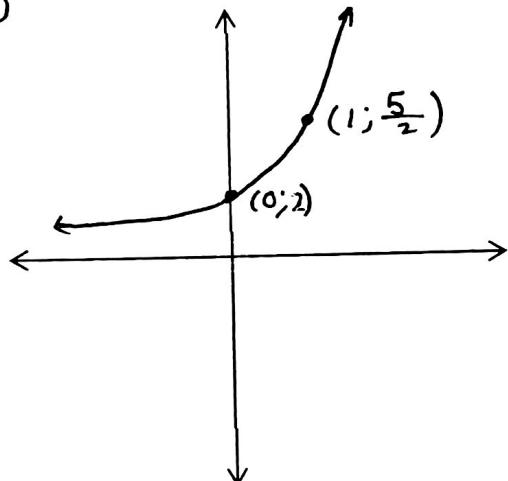


MAANDAG HUISWERK: BI 164; Oef 15; # 1 en 3

DINSDAG: Skets grafieke van die vorm: $y = a \cdot b^x$

1. $y = 2.5^x$ (b heelgetal en $+$: bo!)

- y-afsnit: ($x=0$): $y = 2$ ($0; 2$)
- enige punt: (kies!) $x = 1$ ($1; \frac{5}{2}$)
- asymptote: +q ($y = 0$)
- def. versameling: $x \in \mathbb{R}$
- waardeversameling: $y : (0; \infty)$



$$y = -2 \left(\frac{1}{5}\right)^x$$

2. $y = -2 \cdot 5^{-x}$ (b breuk en $-:$ onder!)

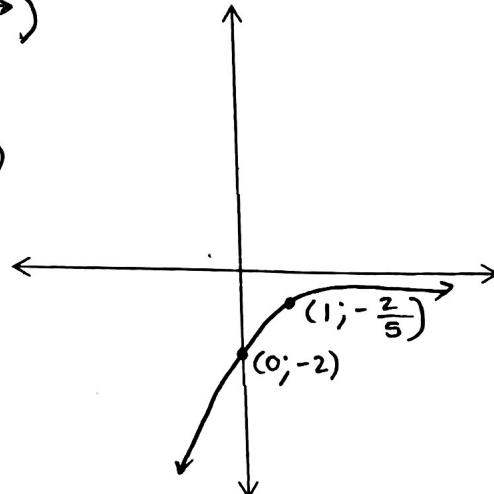
➤ y-afsnit: ($x=0$): $y = -2(0; -2)$

➤ enige punt: (kies!): $x = 1(1; -\frac{2}{5})$

➤ asymptote: $+q$ ($y = 0$)

➤ def. versameling: $x \in \mathbb{R}$

➤ waardeversameling $y : (-\infty; 0)$



DINSDAG HUISWERK: BI 168; Oef 16; # 1 en 2

WOENSDAG: Skets grafieke van die vorm: $y = a \cdot b^x + q$

1. $y = 3^x + 2$ (b heel en $+$: bo!)

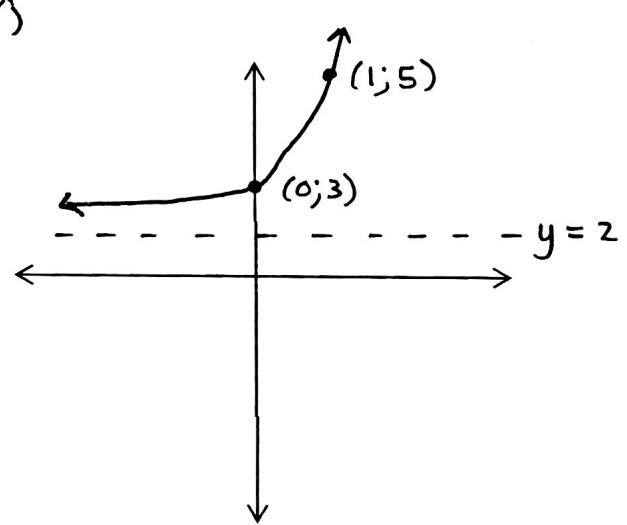
➤ y-afsnit: ($x=0$): $y = 3(0; 3)$

➤ enige punt: (kies!): $x = 1(1; 5)$

➤ asymptote: $q = 2$ ($y = 2$)

➤ def. versameling: $x \in \mathbb{R}$

➤ waardeversameling $y : (2; \infty)$



2. $y = (\frac{1}{5})^x - 1$ (b breuk en $-:$ bo!)

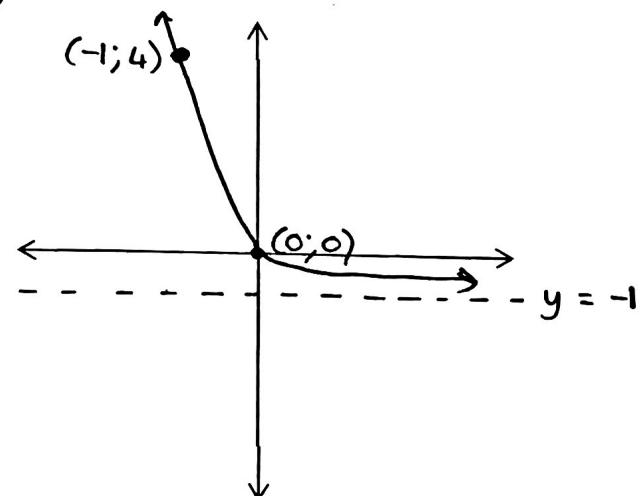
➤ y-afsnit: ($x=0$): $y = 0(0; 0)$

➤ enige punt: (kies!): $x = -1(-1; 4)$

➤ asymptote: $q = -1$ ($y = -1$)

➤ def. versameling: $x \in \mathbb{R}$

➤ waardeversameling $y : (-1; \infty)$



. 3. $y = -3^x + 2$ (**b heel getal en $-$:** \curvearrowleft **onder!**)
 asimptoot

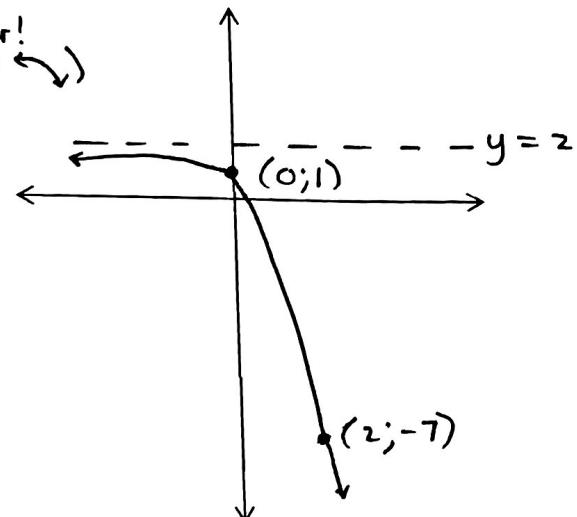
➤ y - afsnit: ($x = 0$): $y = 1$ ($0; 1$)

➤ enige punt: (**kies!**) $x = 2$ ($2; -7$)

➤ asimptote: $q = 2$ ($y = 2$)

➤ def. versameling: $x \in \mathbb{R}$

➤ waardeversameling $y : (-\infty; 2)$



. 4. $y = -\left(\frac{1}{4}\right)^x - 1$ (**b breuk en $-$:** \curvearrowleft **onder!**)
 asimptoot

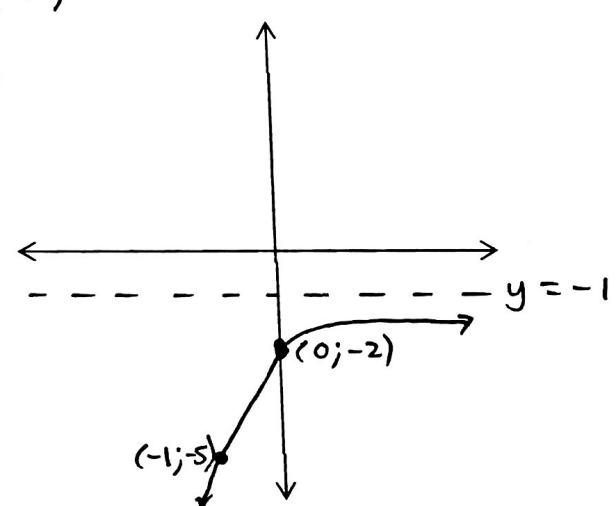
➤ y - afsnit: ($x = 0$): $y = -2$ ($0; -2$)

➤ enige punt: (**kies!**) $x = -1$ ($-1; -5$)

➤ asimptote: $q = -1$ ($y = -1$)

➤ def. versameling: $x \in \mathbb{R}$

➤ waardeversameling $y : (-\infty; -1)$



HUISWERK WOENSDAG DOEN NOU!

1. $y = 2.5^x$; 2. $y = -2.3^x$; 3. $y = 5^x + 2$; 4. $y = 4^x - 2$

DONDERDAG HUISWERK: BI 171; Oef 17; # 2 (d, e, h, k, p) EN

BI 173; Oef 18; # a – f