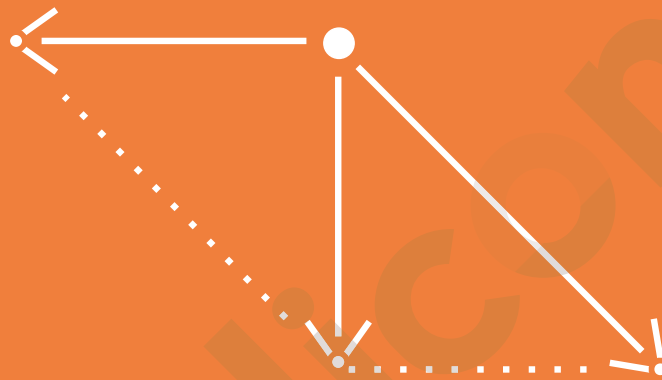


Op de tast...:
Krachten - deel 1

Op de tast...:



Krachten - deel 1

Bij deze tekeningenband
hoort gelijknamige uitleg
in braille of Edu-tekst

Dedicon, 2024 versie 01

367509_1

Legenda 1 van 2

=^ komt overeen met

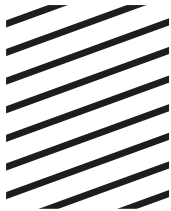
subscript

kracht naar rechts

somkracht naar links

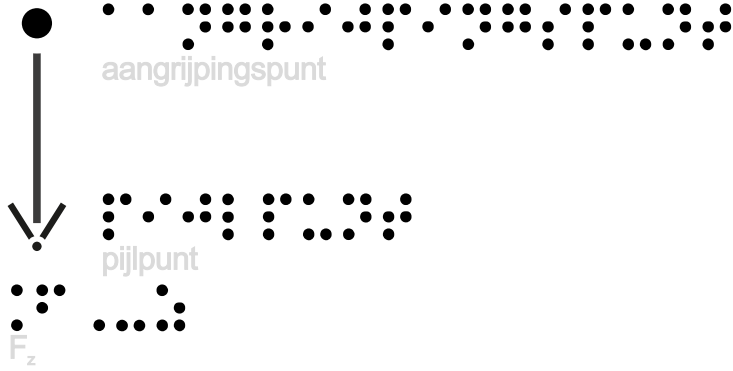
hulplijn of touw

zwaartepunt



veer of elastiek

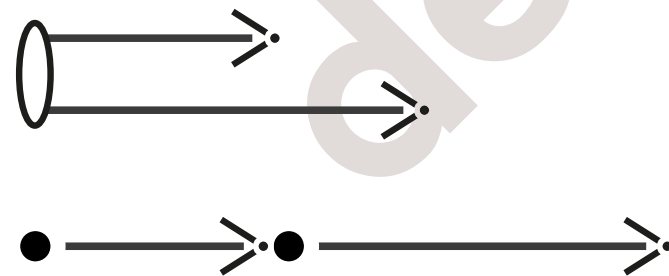
zwaartekracht



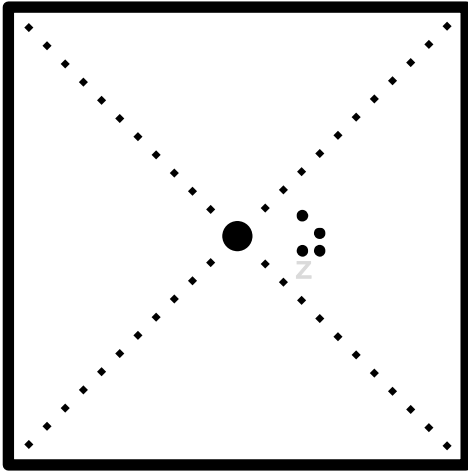
Krachten in tegengestelde richting



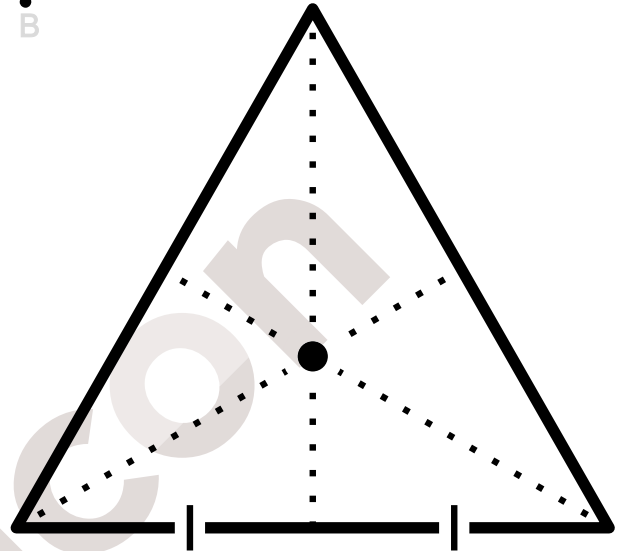
Krachten in dezelfde richting



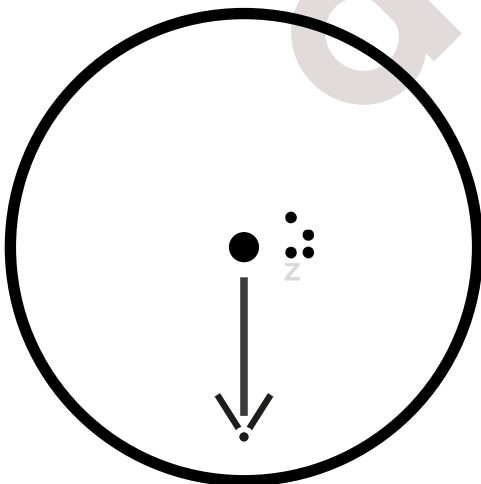
A



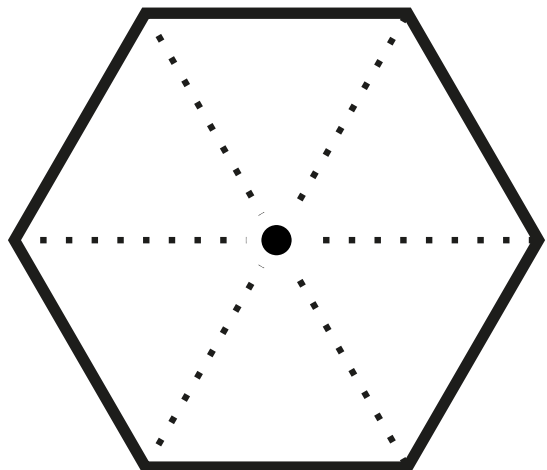
B



C



D



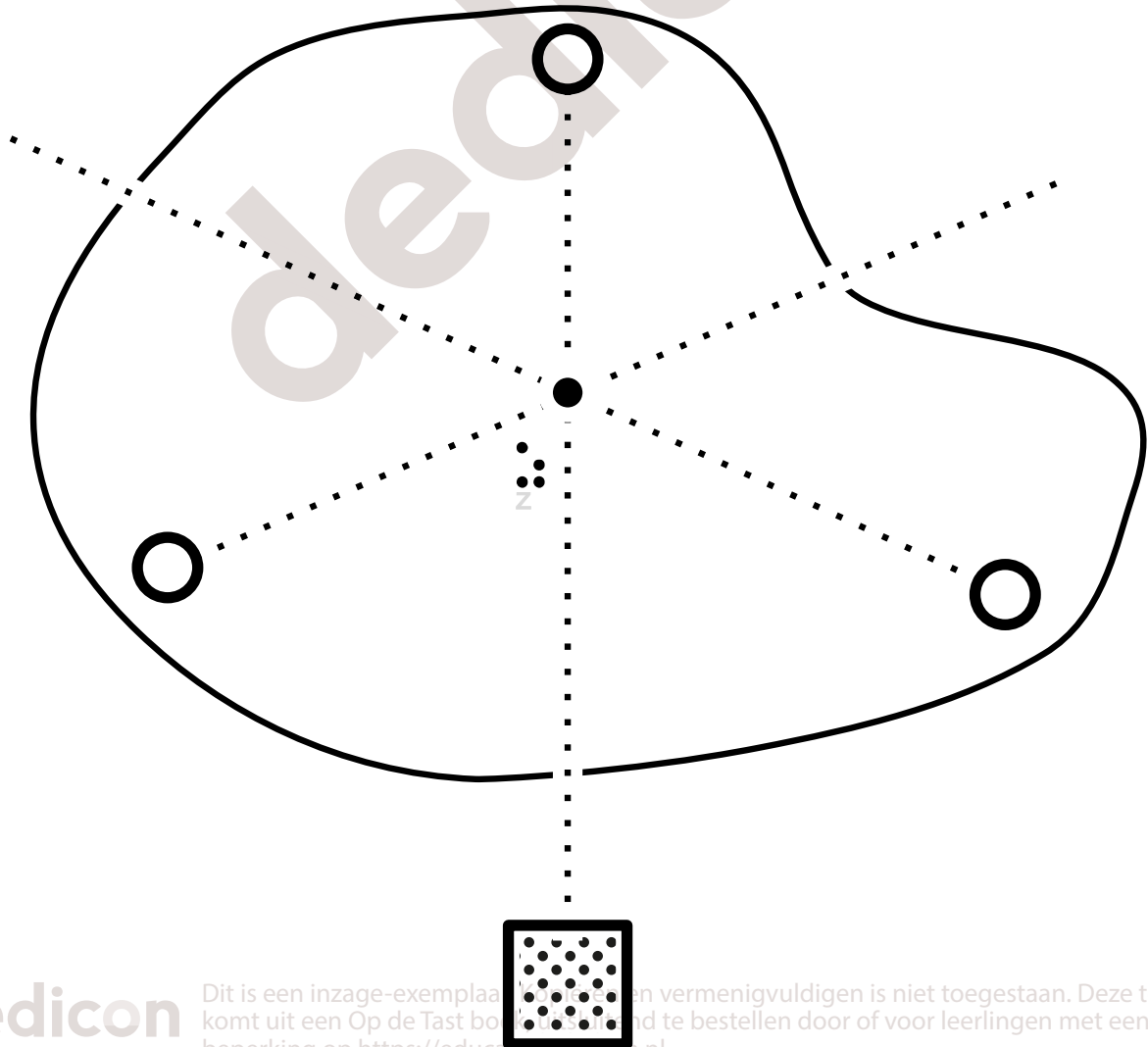
Zwaartepunt onregelmatige
vorm

● zwaartepunt

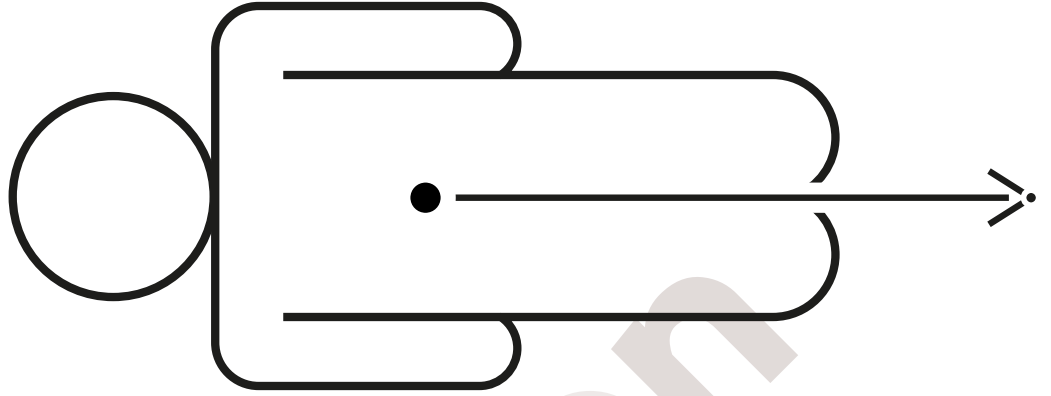
○ gaatje

..... touw

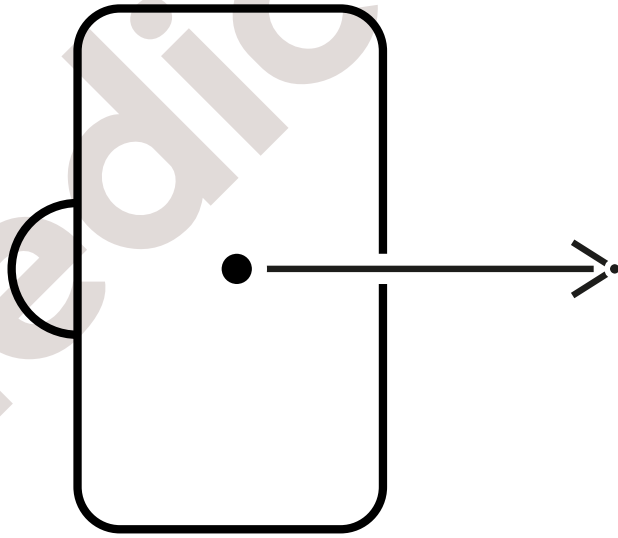
■ gewichtje



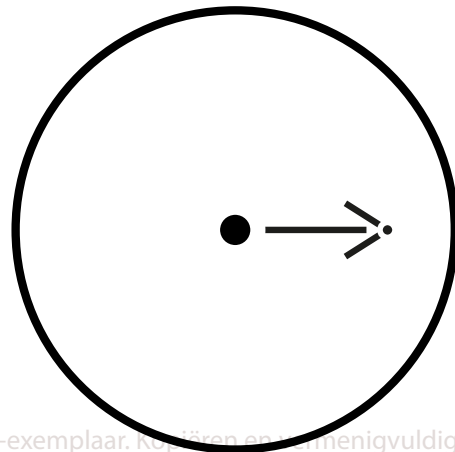
kind
400 N



kefif
250 N



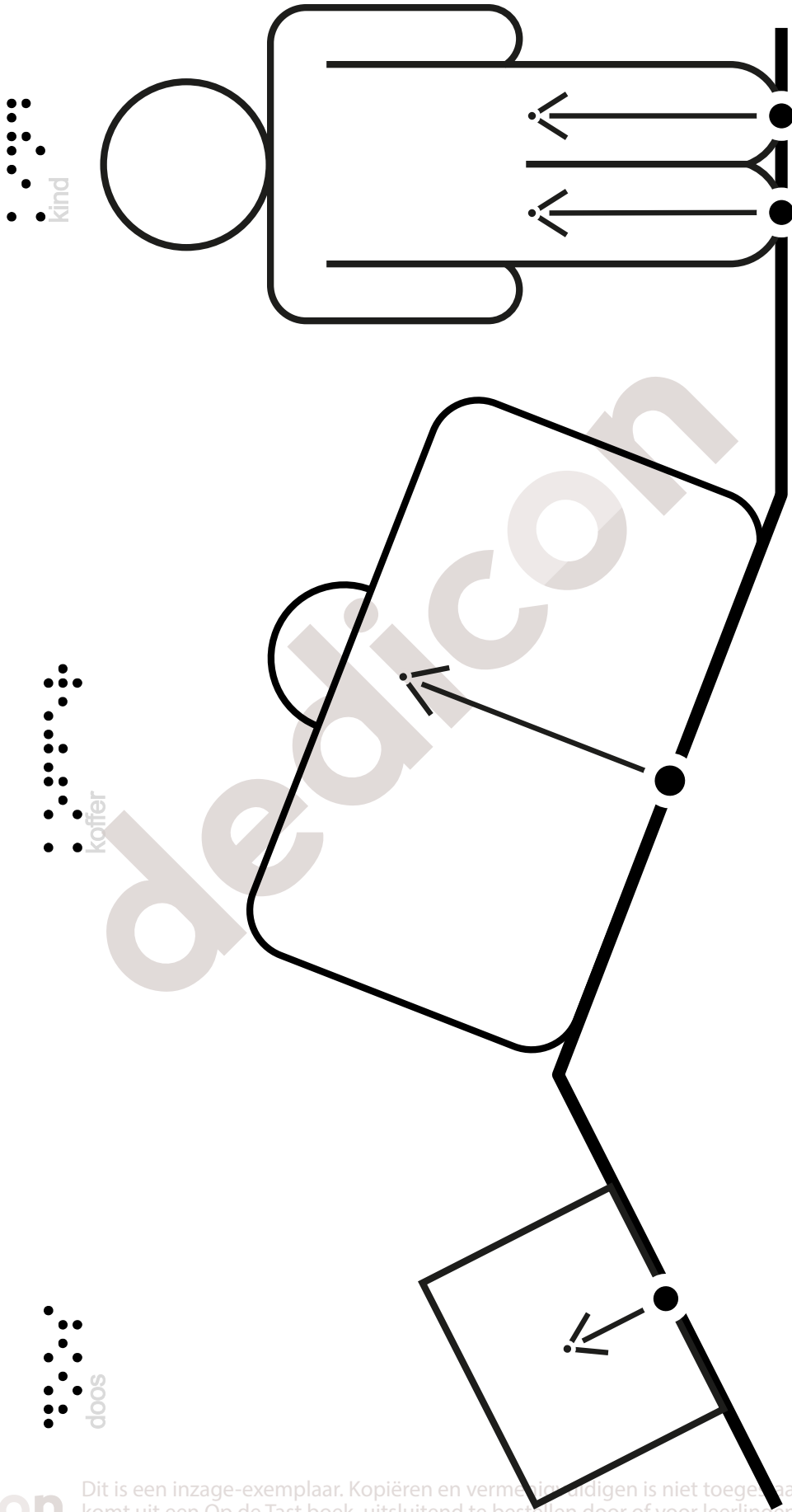
bowlingbal
100 N



1 cm $\hat{=}$ 50 N

Normaalkracht

dwars



= normaalkracht
 = 50 N

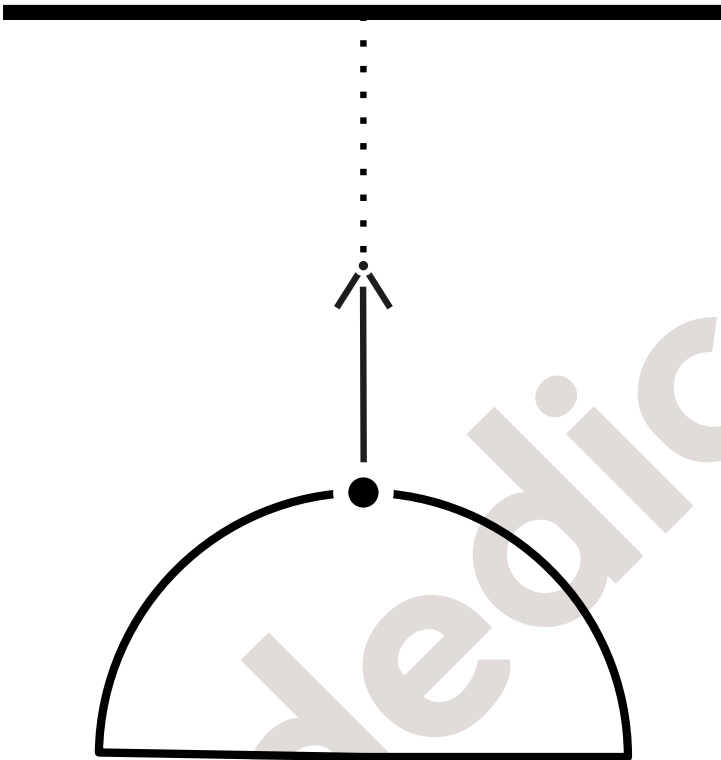
koffer

doos

Spankracht

$F_s = \text{spankracht}$
 $1 \text{ cm} = 5 \text{ N}$

hanglamp



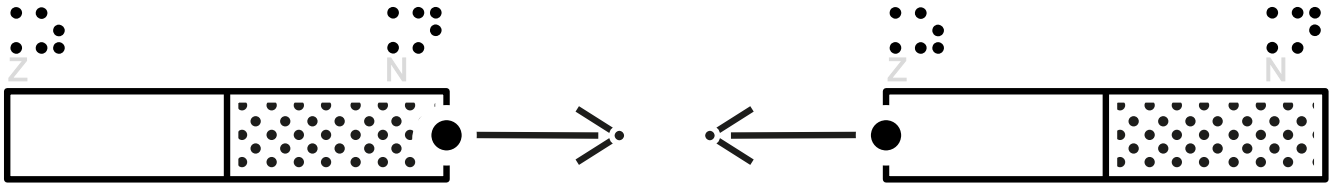
touwtrekken



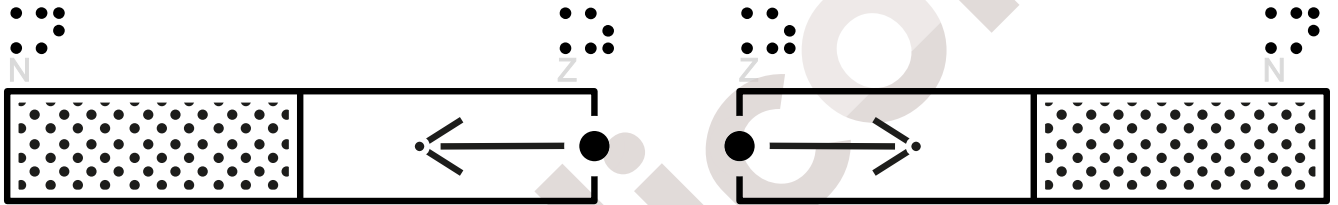
Magnetische kracht

8

aantrekken



afstoten



Veerkraft

$F_v = \text{Veerkraft}$

1 cm $\hat{=}$ 75 N

blokje

225 N

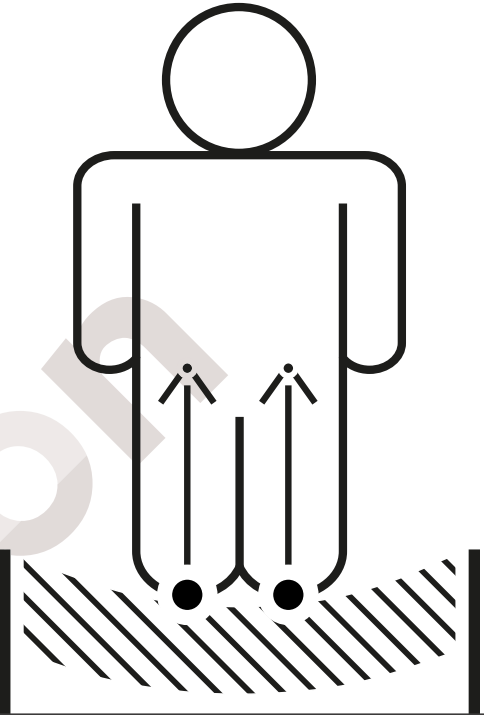
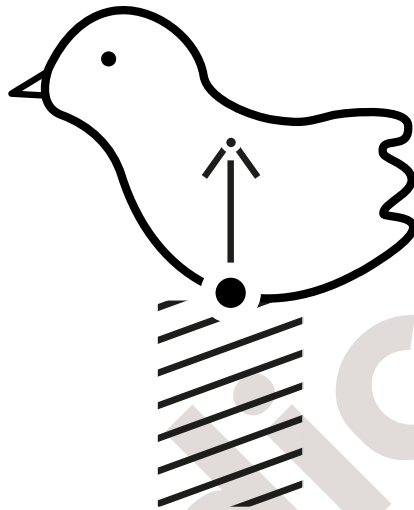
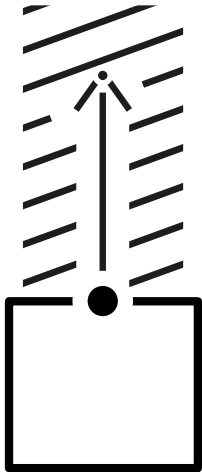
wipkip

150 N

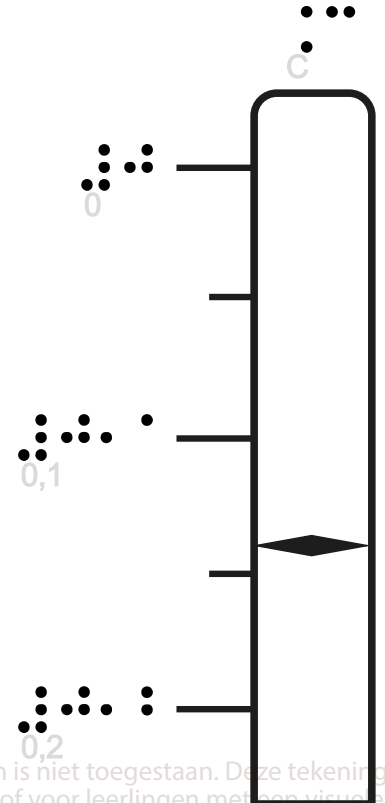
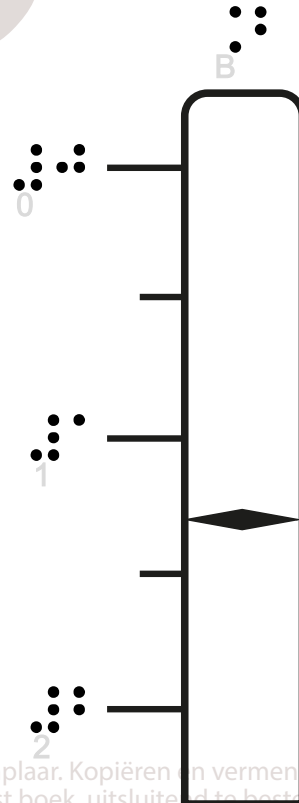
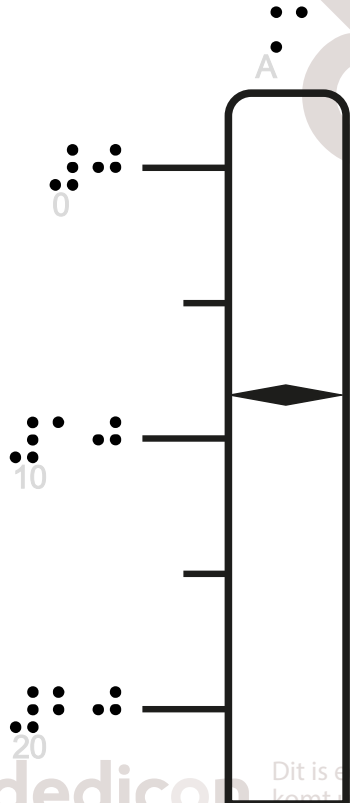
trampoline

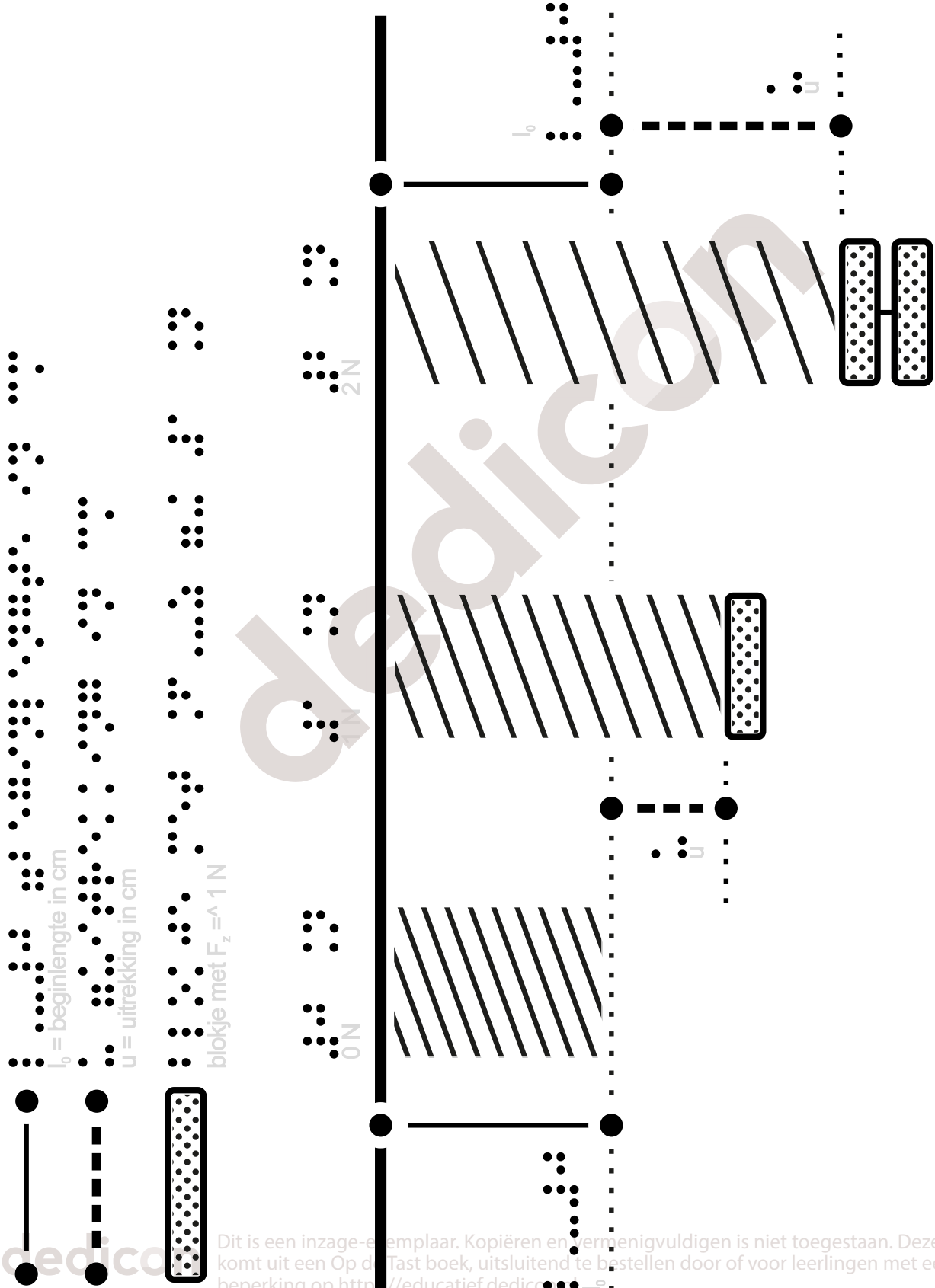
450 N

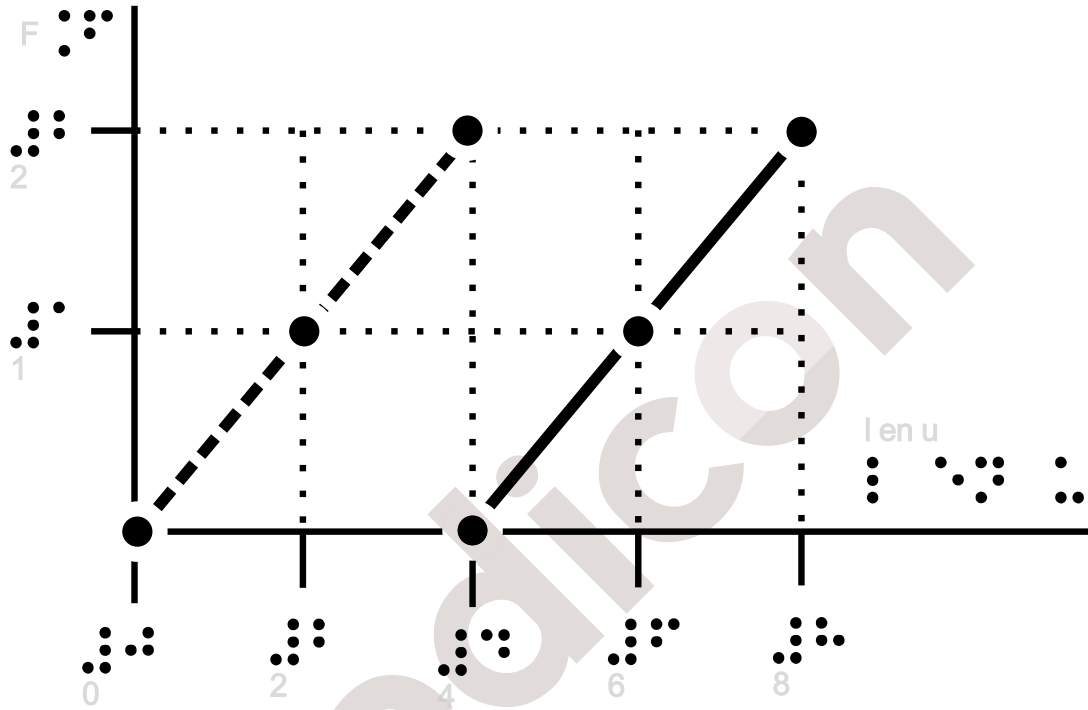
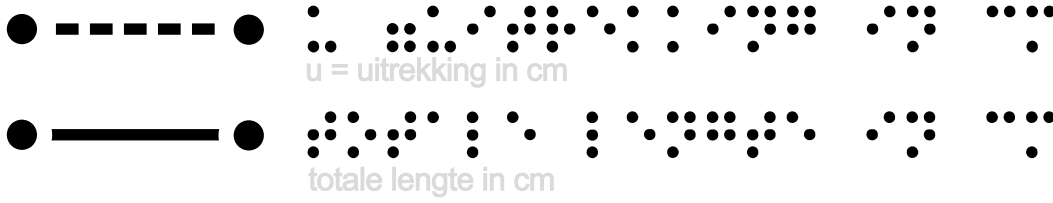
9



Veerunsters aflezen







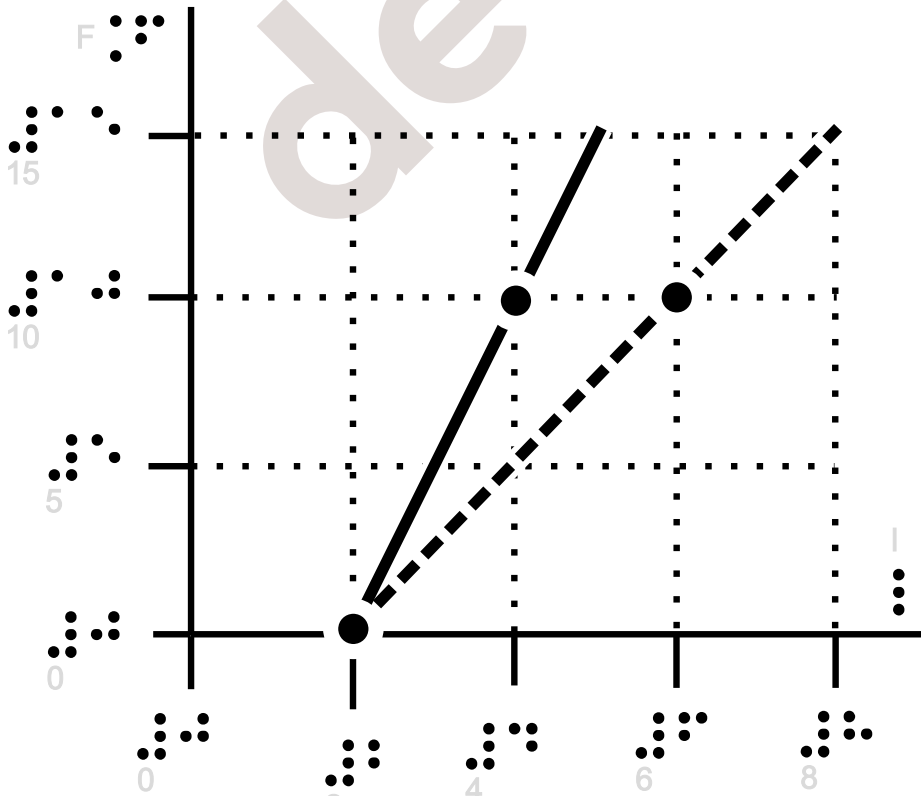
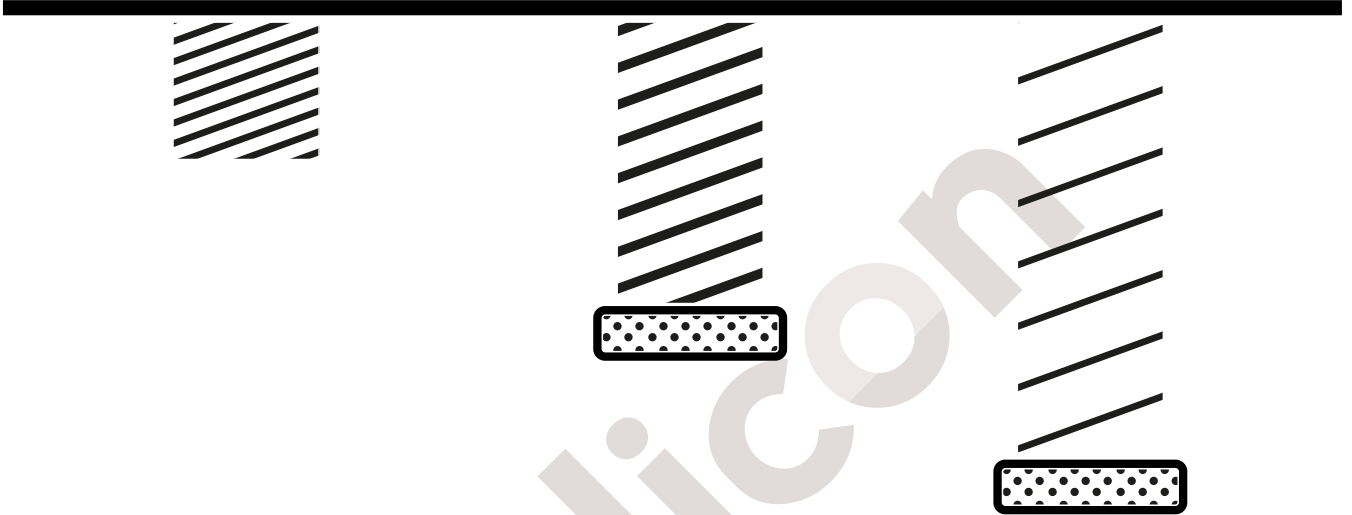


blokje met $F_z = 10 \text{ N}$

l_0

stug

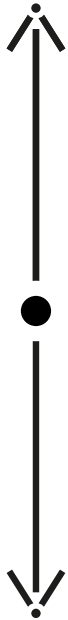
slap



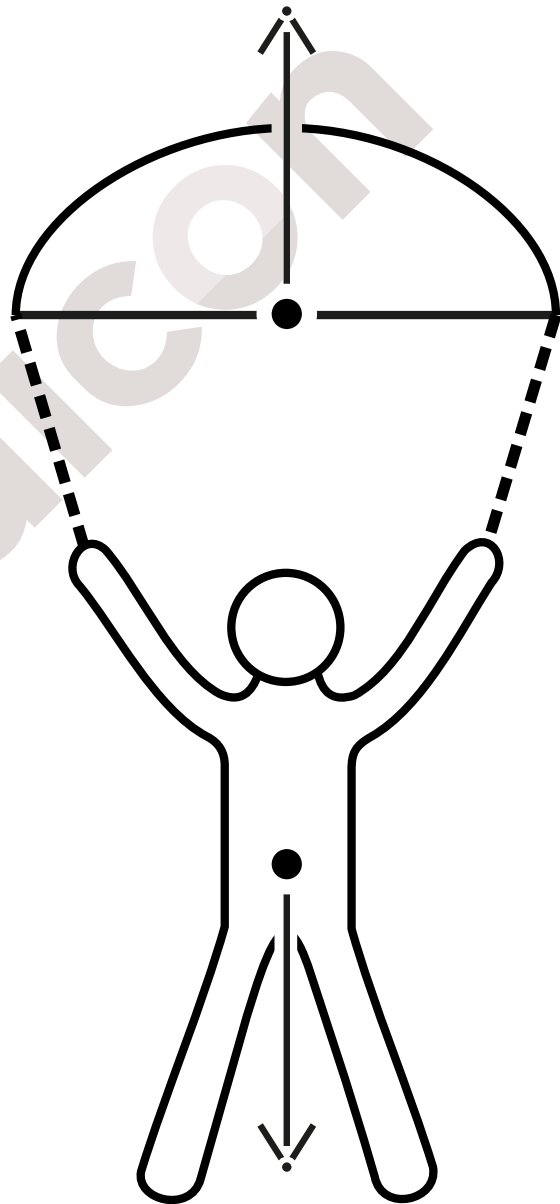
Parachutespringer

$F_z = F_{w,l}$
1 cm = 250 N

$F_{w,l}$

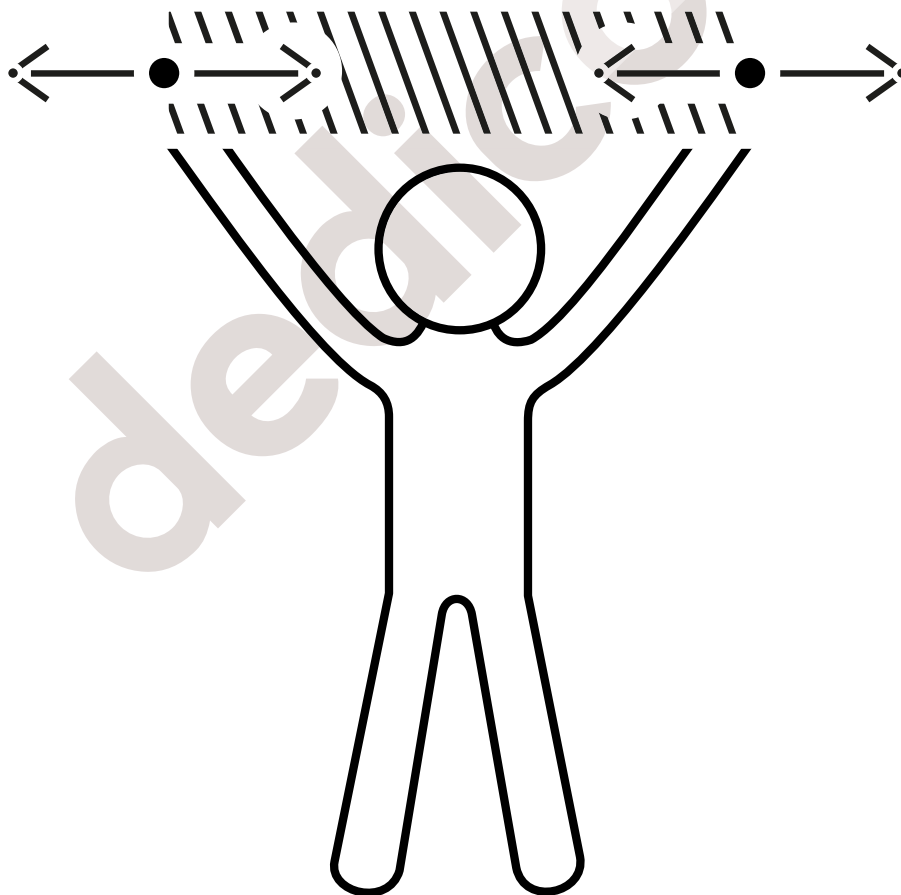
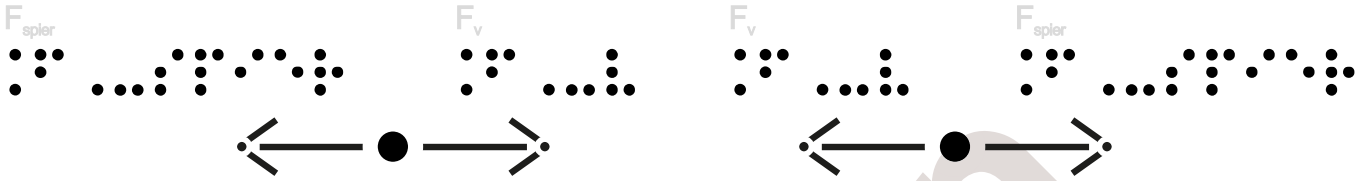


F_z

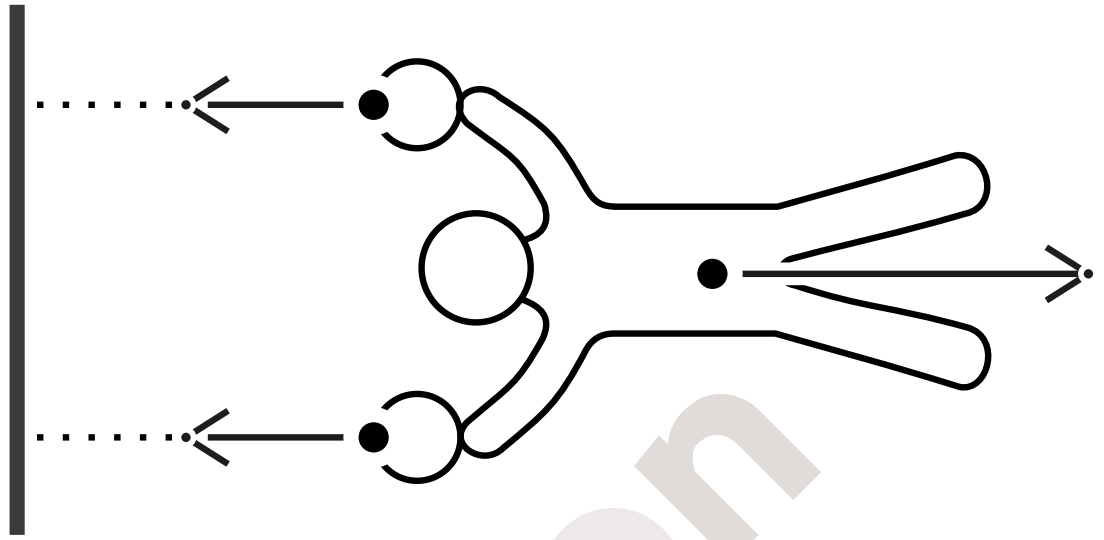


Fitness

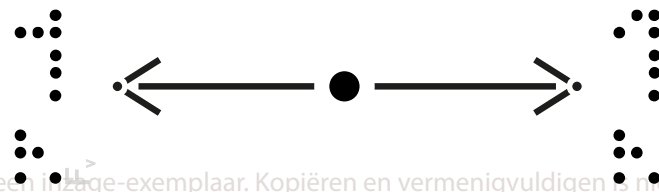
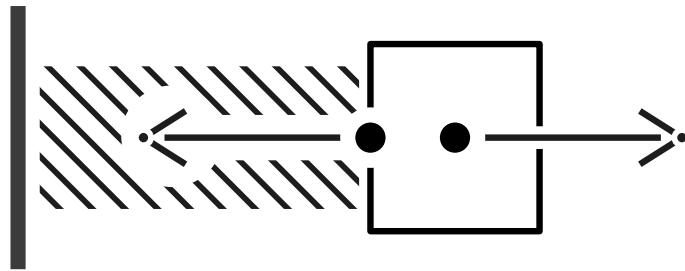
$F_{\text{spier}} = F_v$
 $1 \text{ cm} = 50 \text{ N}$



Turner aan ringen
 $F_1 = F_2$
 $1 \text{ cm} \hat{=} 120 \text{ N}$



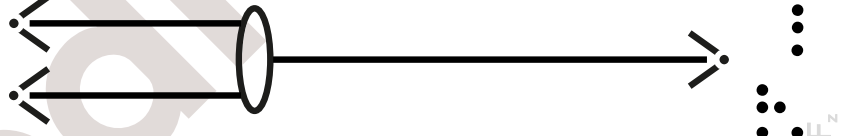
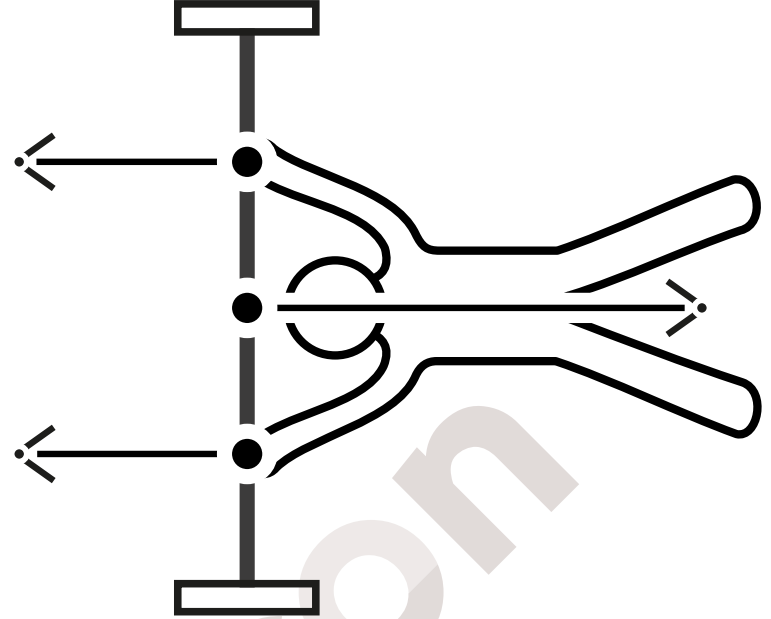
Blokje aan veer
 $F = F_v$
 $1 \text{ cm} \hat{=} 1 \text{ N}$



Gewichtheffer

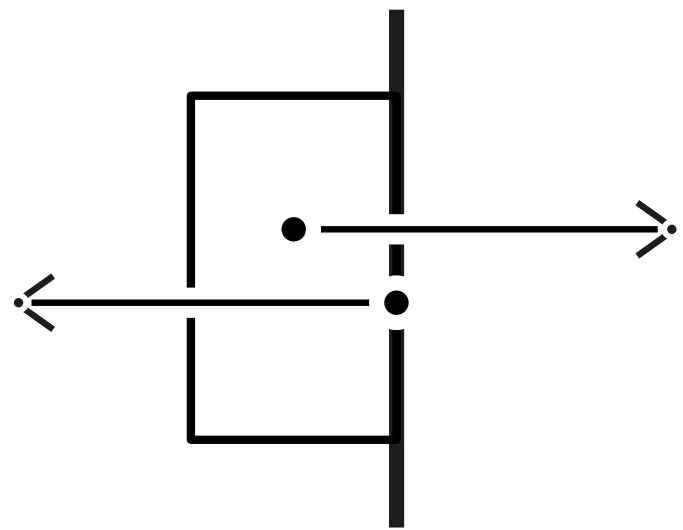
$F = F_{spier}$
1 cm $\hat{=} 50$ N

F_{spier}



F_c
1 cm $\hat{=} 10$ N

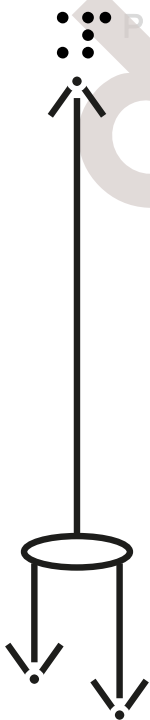
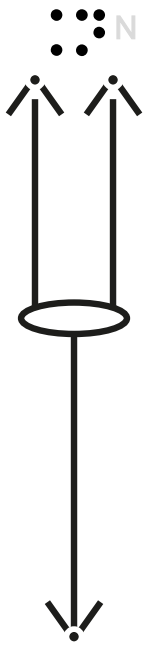
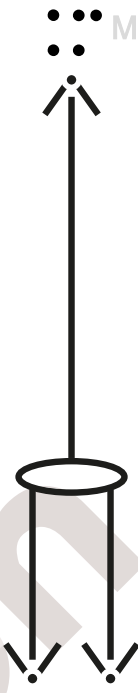
F_c



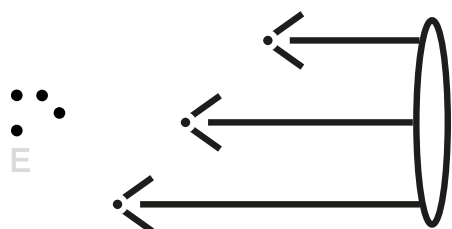
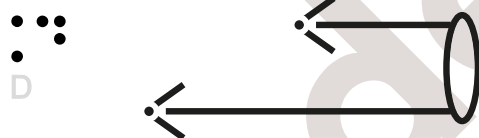
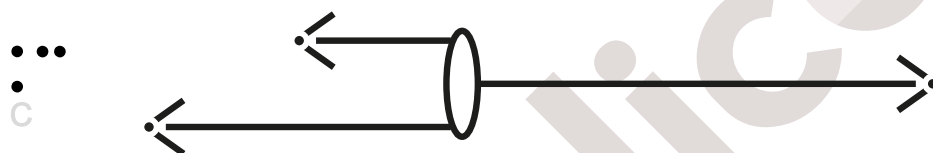
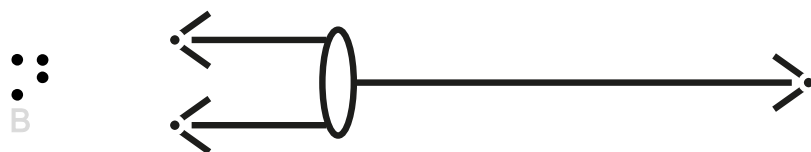


Krachtendiagrammen verticaal

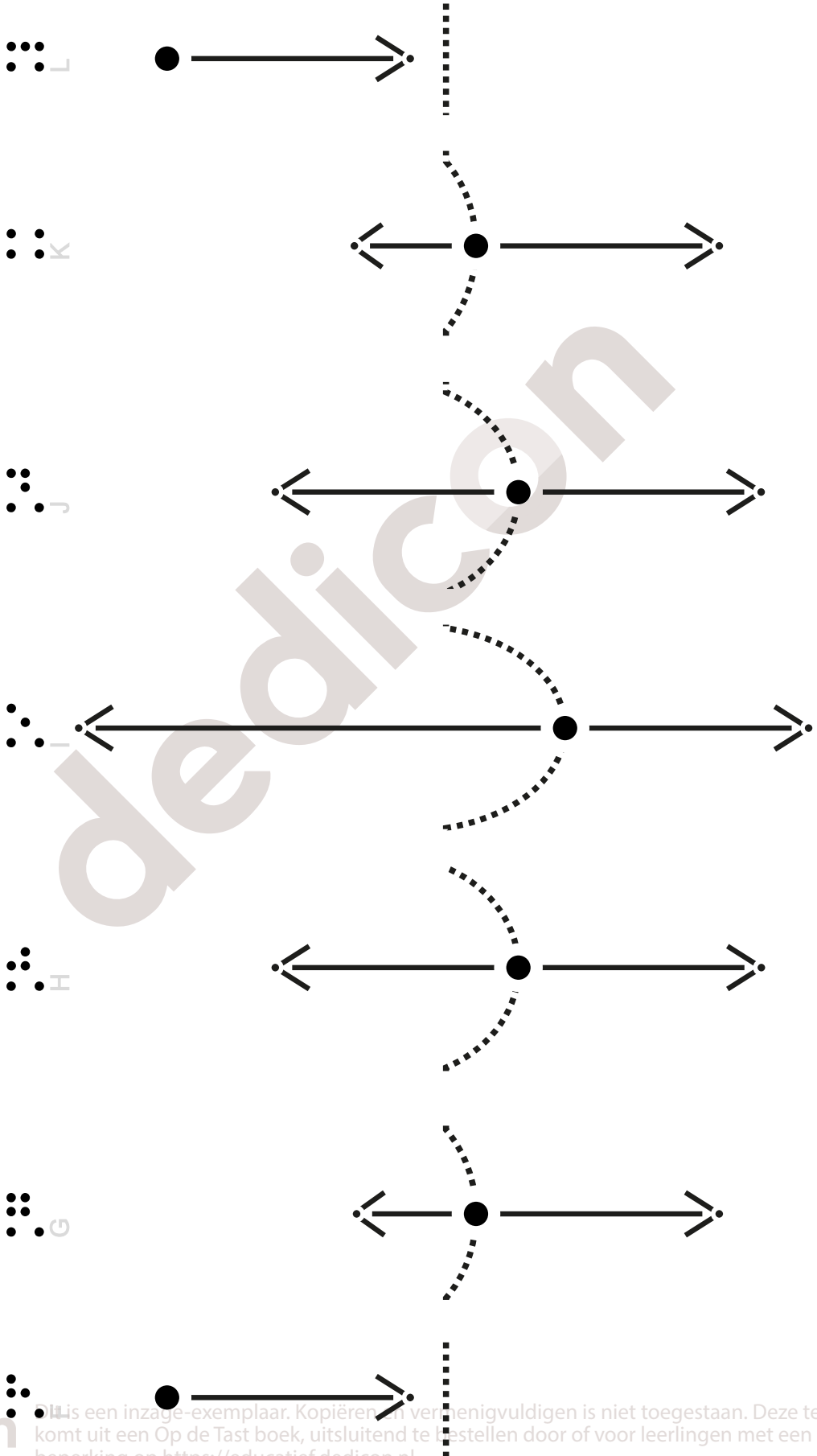
18



Optrekken en remmen



dwars



ampolinesprong

Vervormen



bal

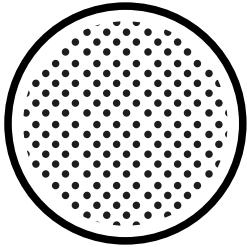


bewegingsrichting van de bal



snaren van het racket (veer)

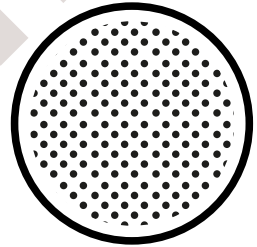
Stuiterende bal



A

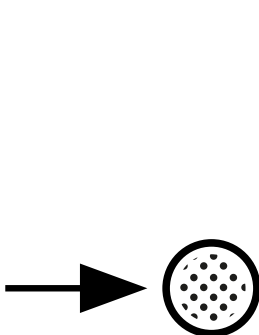


B

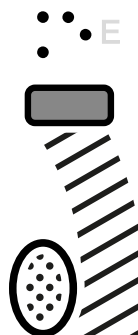


C

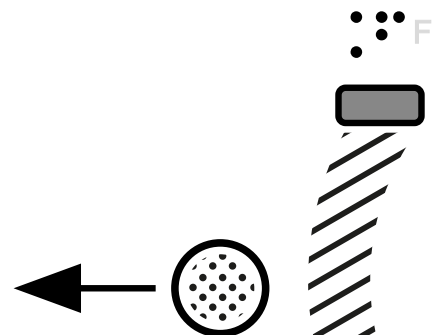
Tennisracket: zijaanzichten



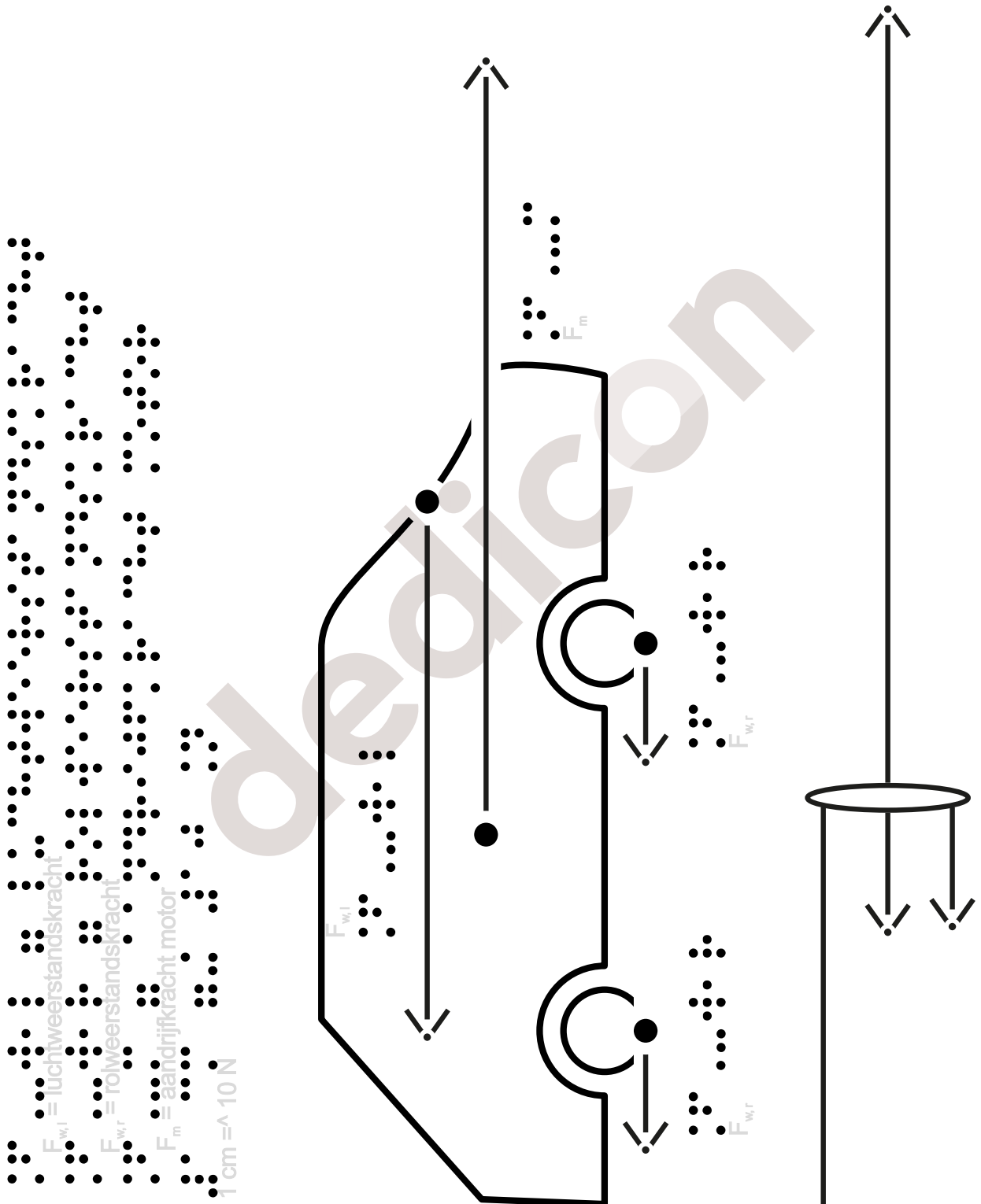
D



E

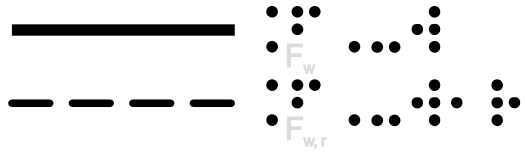


F

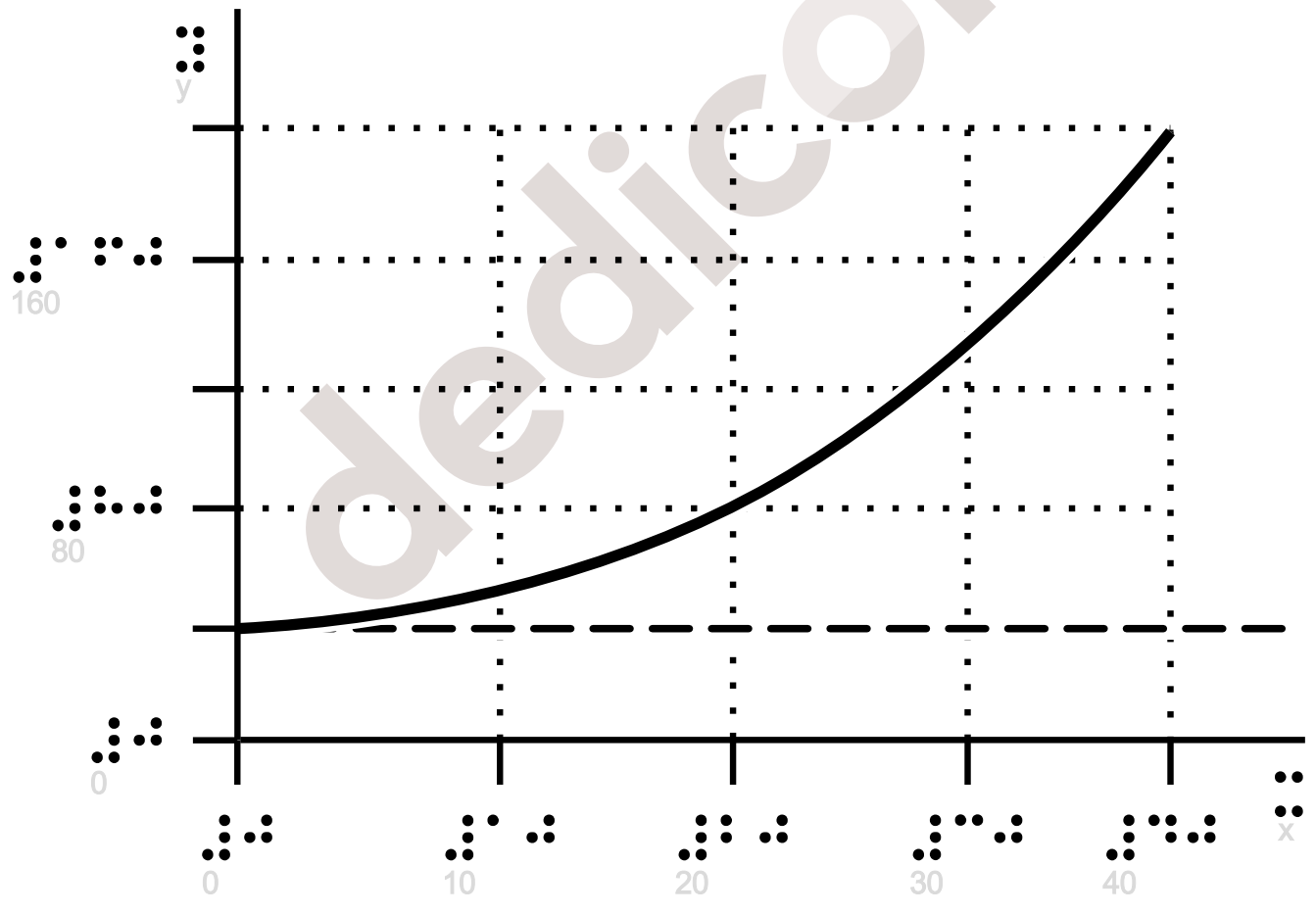


Grafiek wrijvingskracht
en snelheid

x: v (m/s)
y: F_w



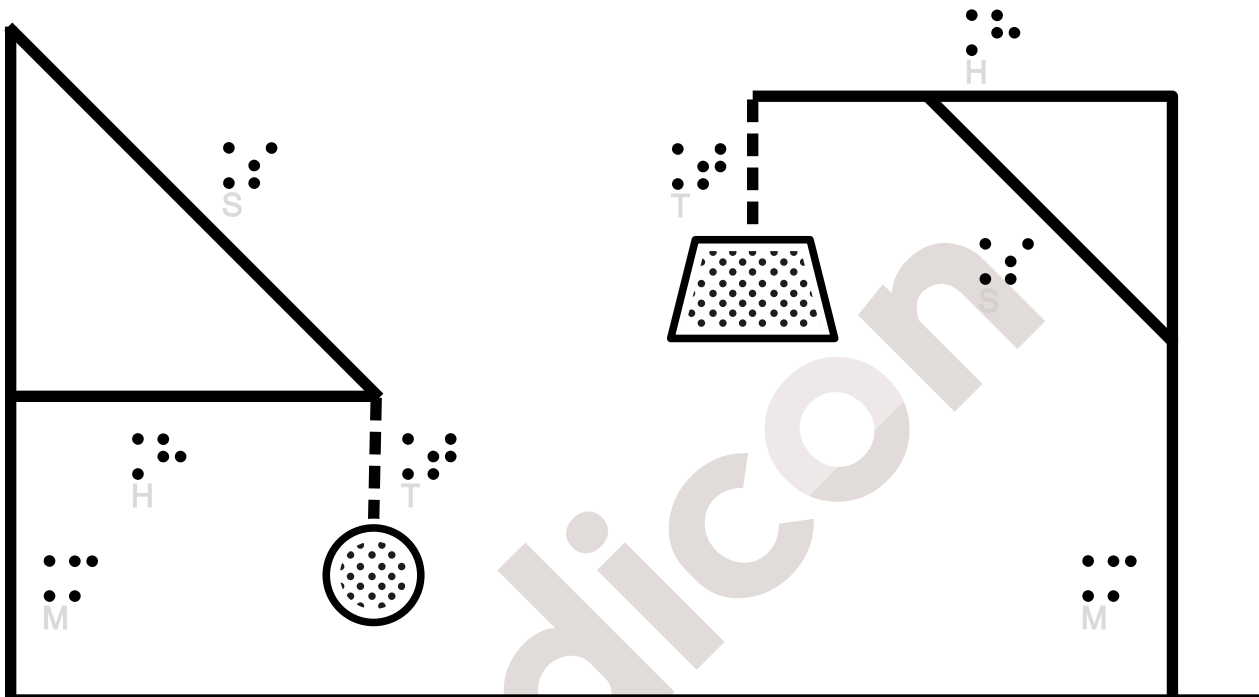
$$F_{w,l} = F_w - F_{w,r}$$



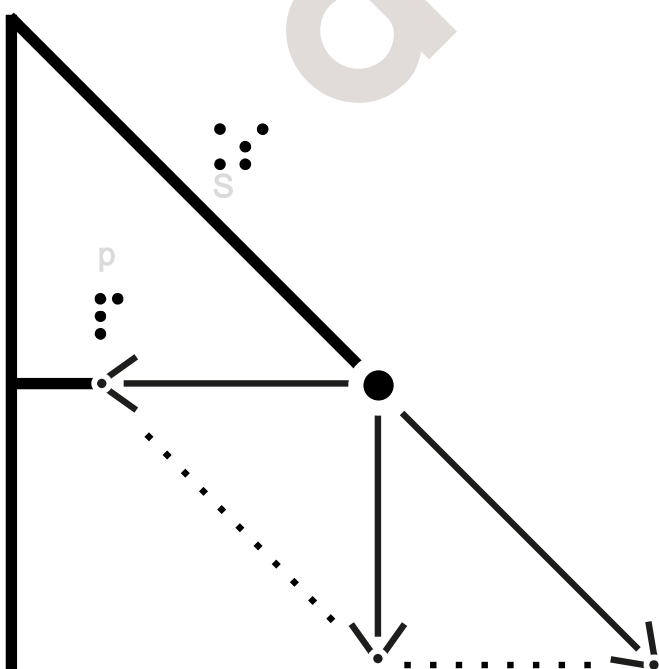
Druk - en trekkrachten

$p F_{\text{druk}}$

Uithangborden



Druk - en trekkracht



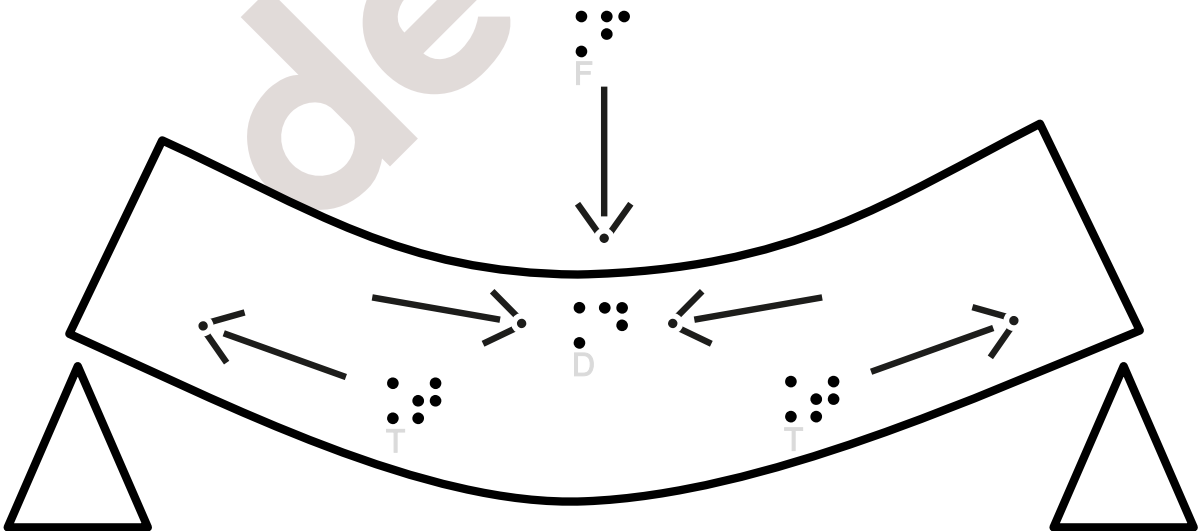
Krachten in een balk

D drukkrachten
T trekkrachten

Onbelaste balk



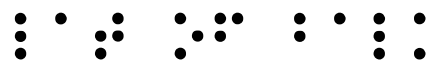
Balk met belasting



Vormvast met driehoeken



Houten lat of balk

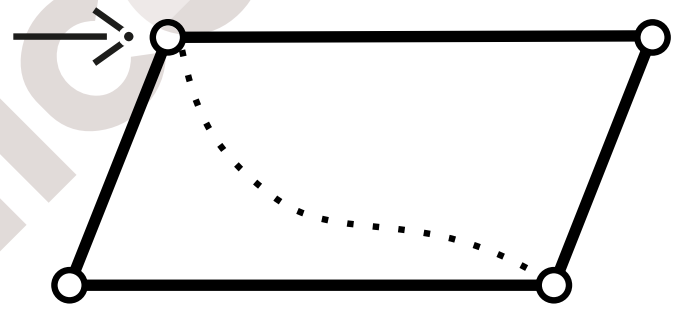
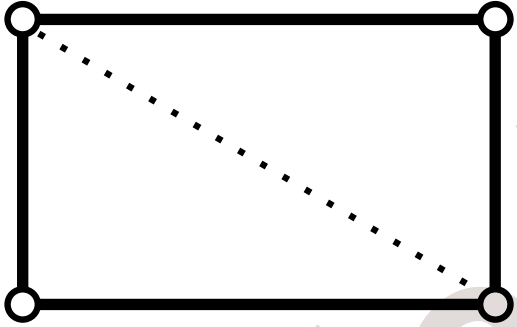


Touw

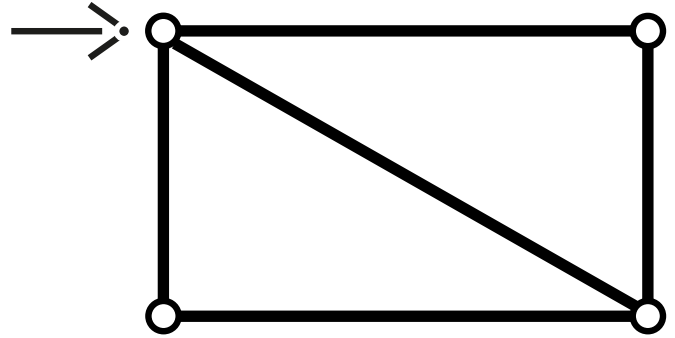
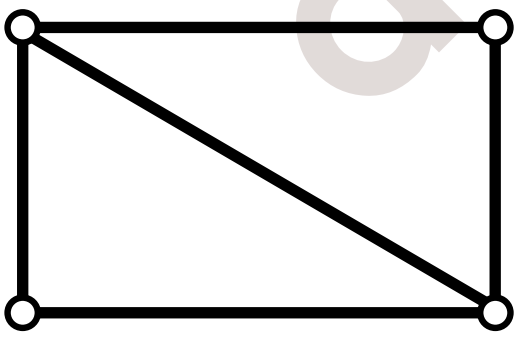
1



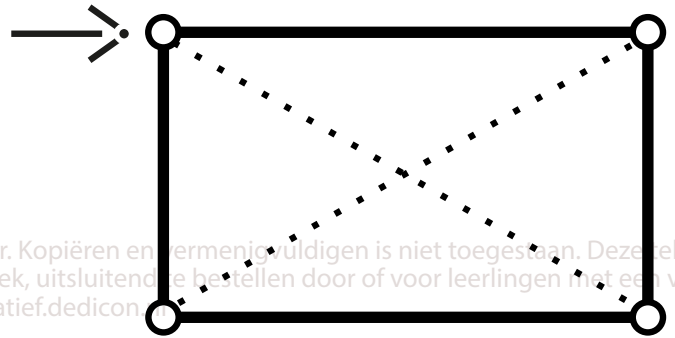
2



3

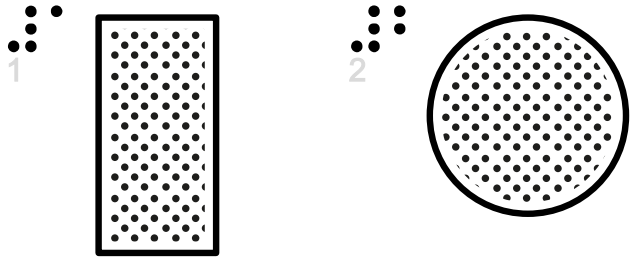


4



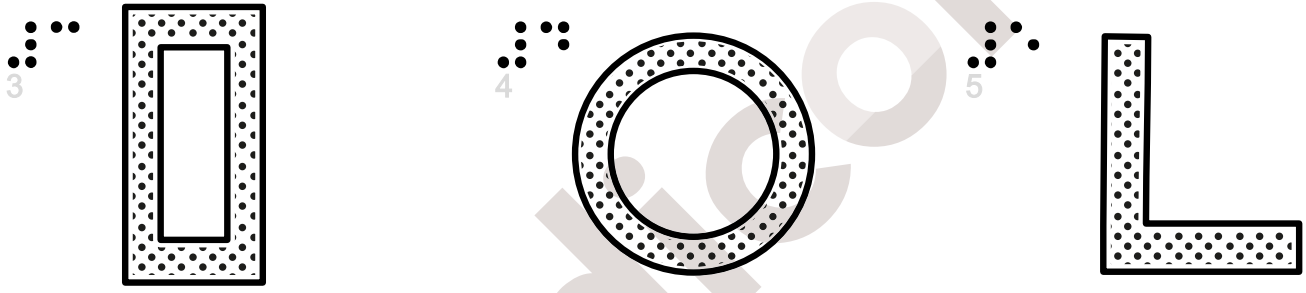
Profielen

massieve staven



buisprofielen (hol)

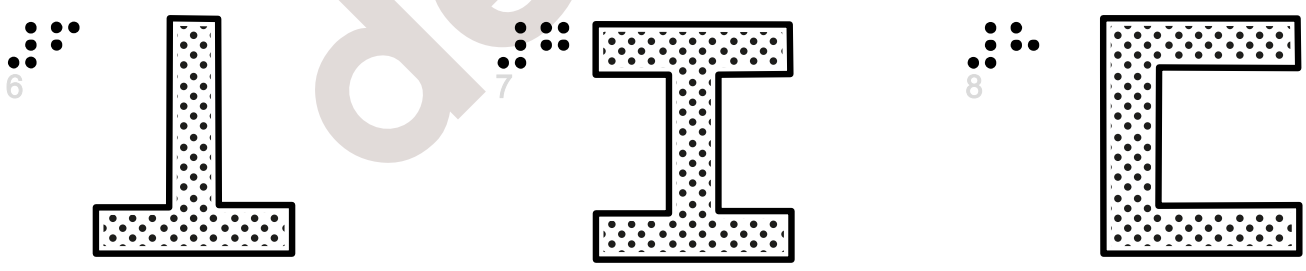
L of hoek



T-profiel

I of H

U of C



Welk profiel is het sterkst?

