

# Metodi e didattica attività motorie

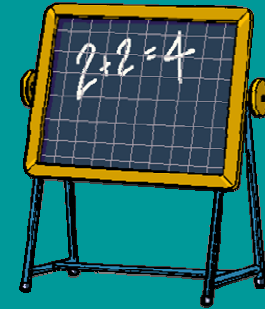
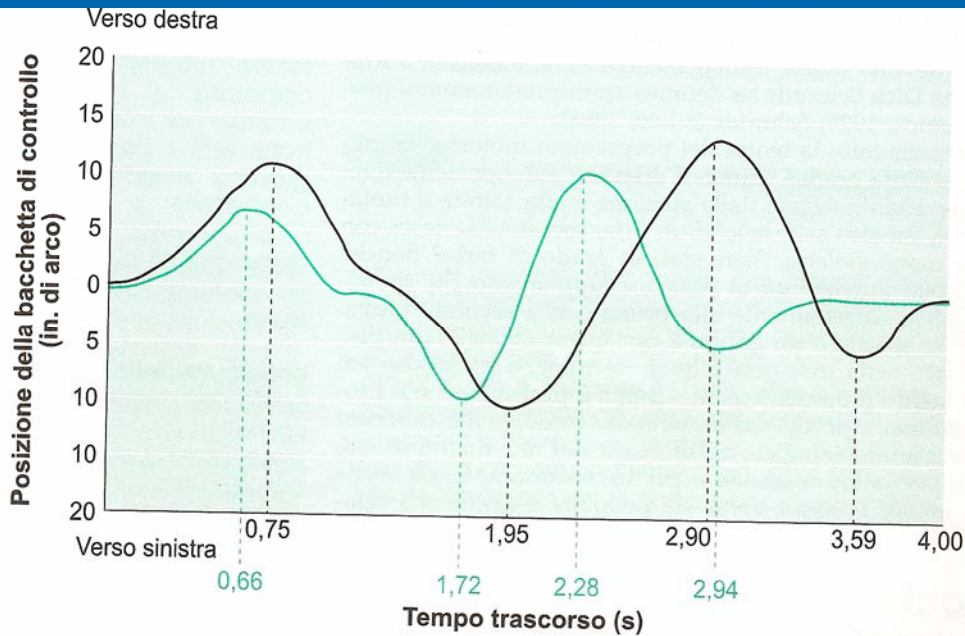
Timing relativo e legge di Fitts

The background of the slide features several concentric, glowing blue circles that resemble ripples on water, scattered across the lower half of the frame.

# LA TEORIA DEL PROGRAMMA MOTORIO GENERALIZZATO

Le caratteristiche che un esecutore può cambiare quando produce un movimento, secondo la teoria del programma motorio generalizzato, sono le seguenti:

- Le variazioni del tempo di movimento
- Le variazioni dell'ampiezza di movimento
- Le variazioni dell'arto e dei muscoli utilizzati



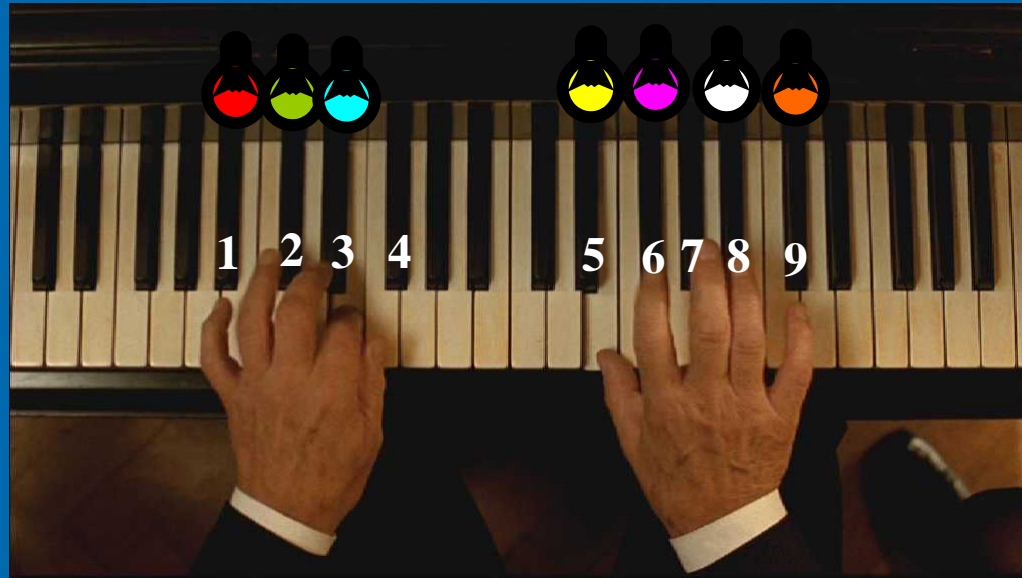
- A Able was I ere I saw Elba
- B Able was I ere I saw Elba
- C Able was I ere I saw Elba
- D Able was I ere I saw Elba
- E Able was I ere I saw Elba

# Variazioni del tempo di movimento

$$T1/Tt = T_{1,1}/T_{1,t}$$



# Summers e le sue ricerche

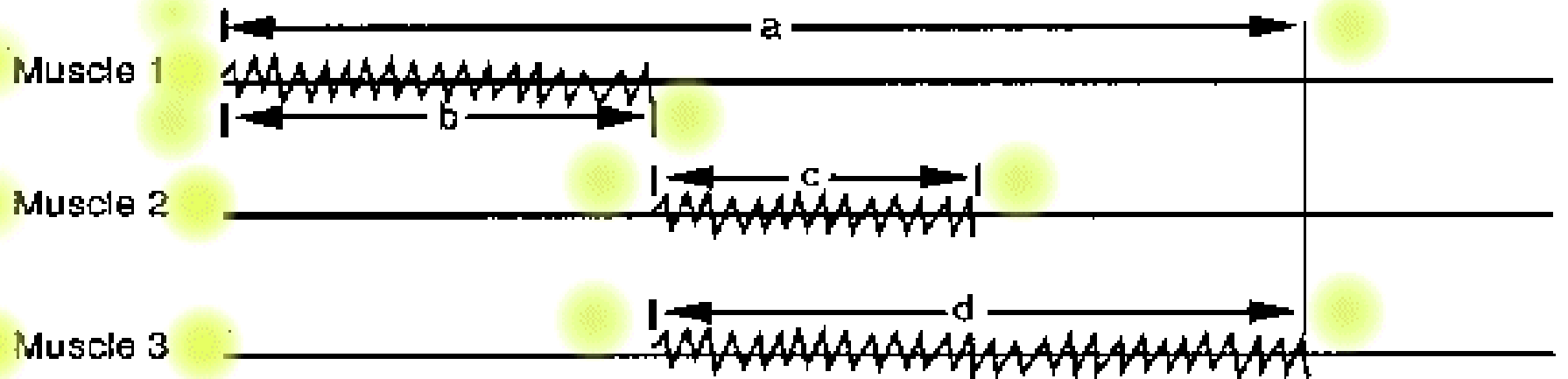


 = 500 ms (es. tasto 1 e 2)

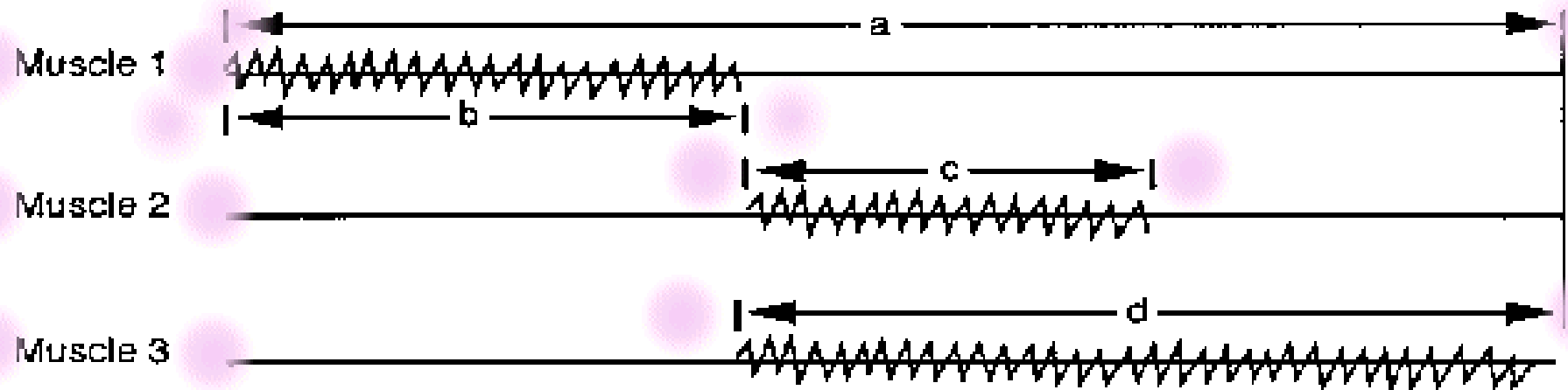
 = 100 ms (es. tasto 6 e 9)

# CONFRONTARE MOVIMENTI FACENDO RICORSO AD UN INSIEME DI RAPPORTI: 2 ripetizioni di movimento di lancio

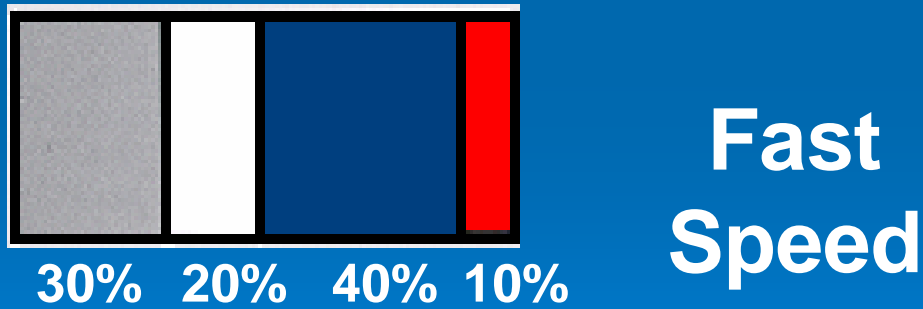
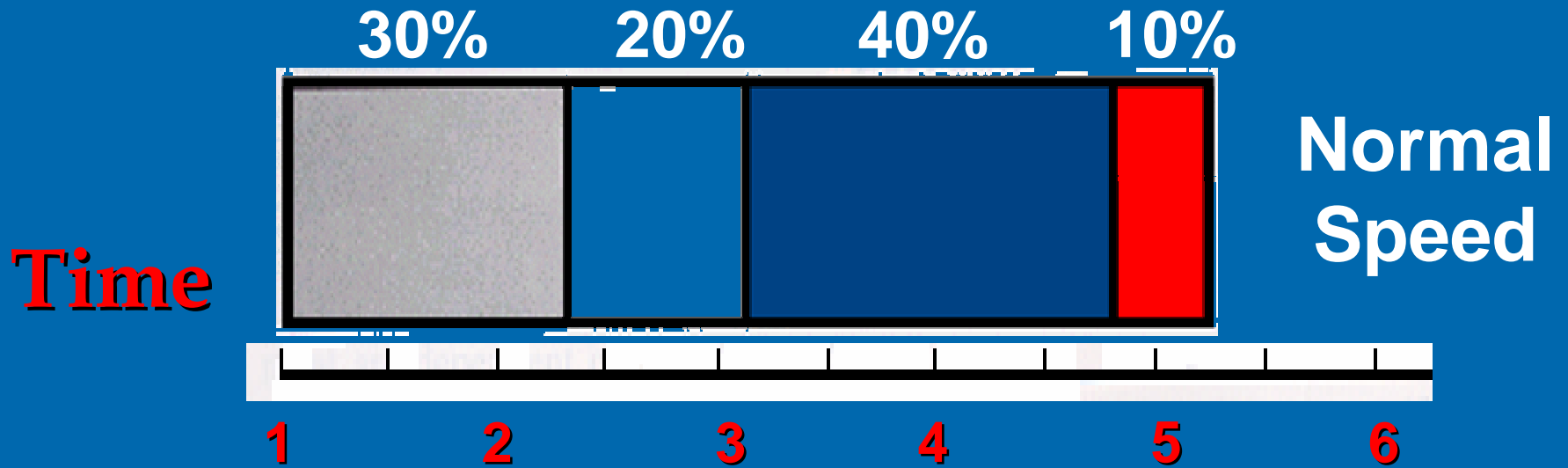
## Movement 1

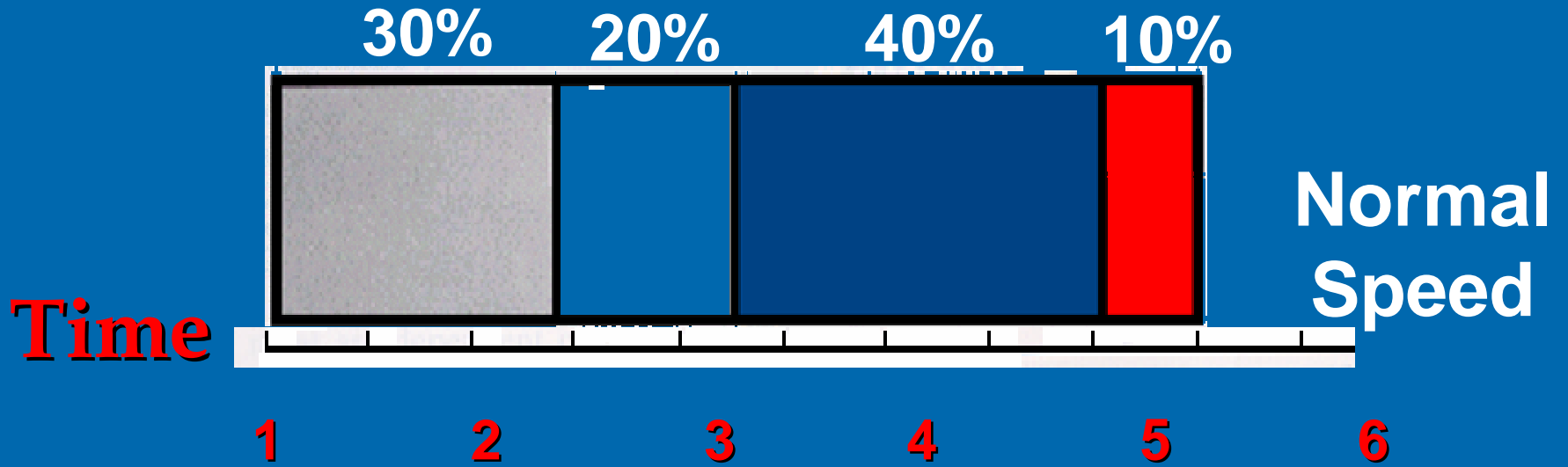


## Movement 2

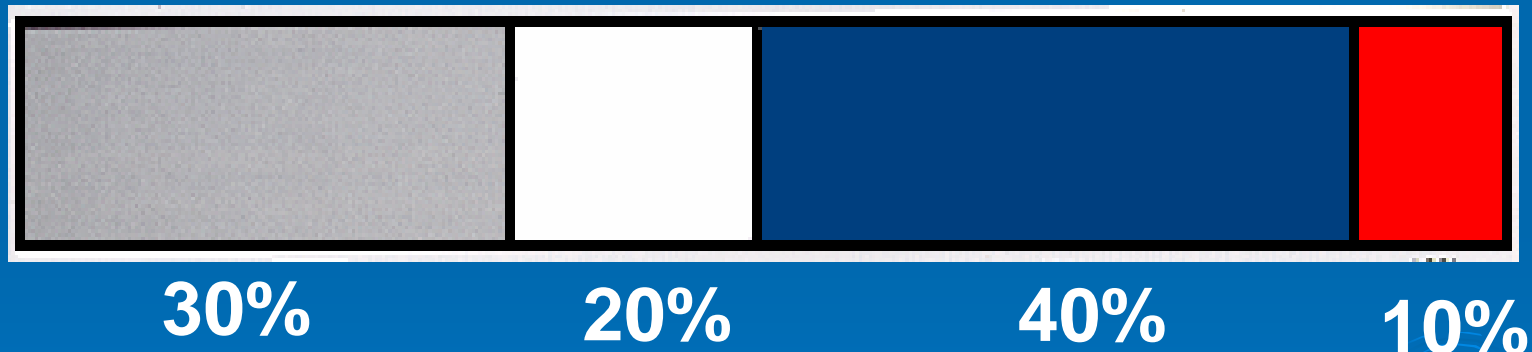


# CONFRONTARE MOVIMENTI FACENDO RICORSO AD UN INSIEME DI RAPPORTI



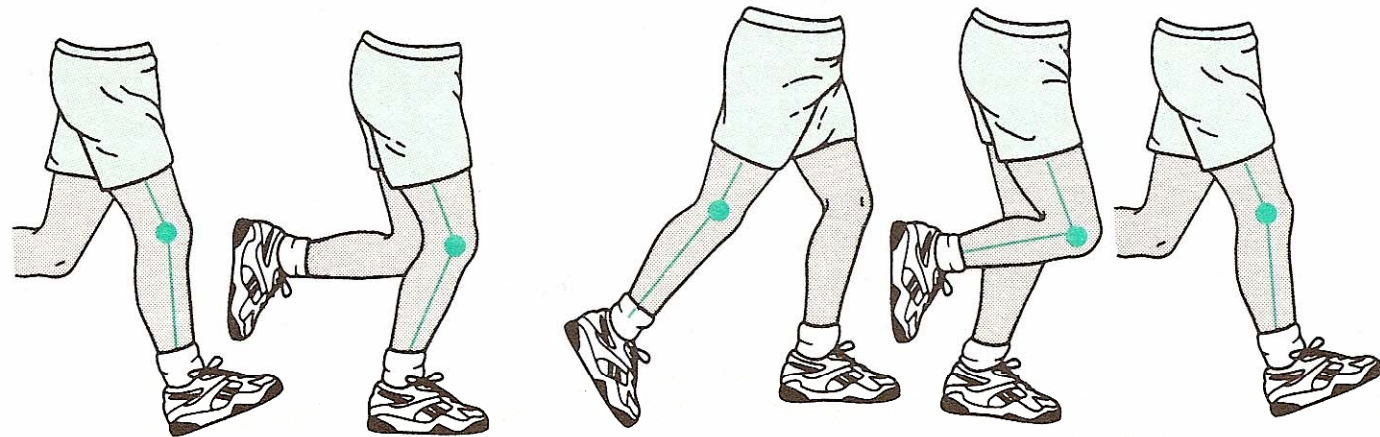


**Slow Speed**





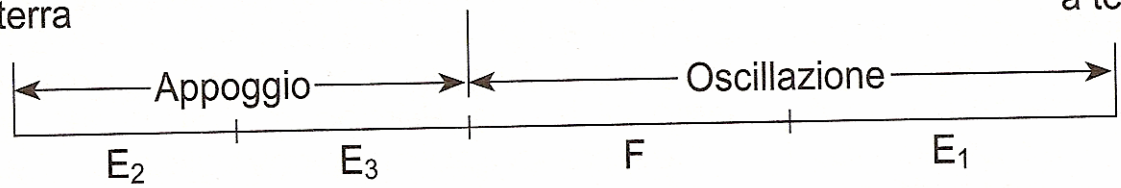
# Timing relativo: Shapiro e la locomozione umana

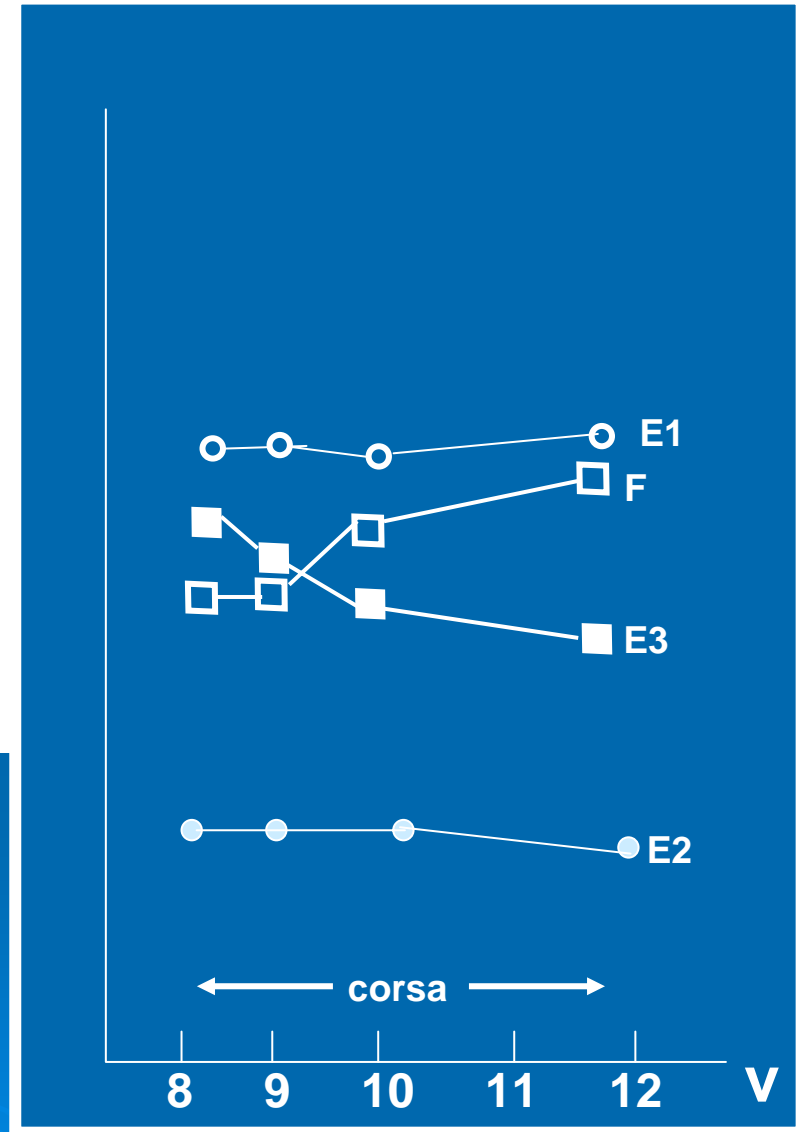
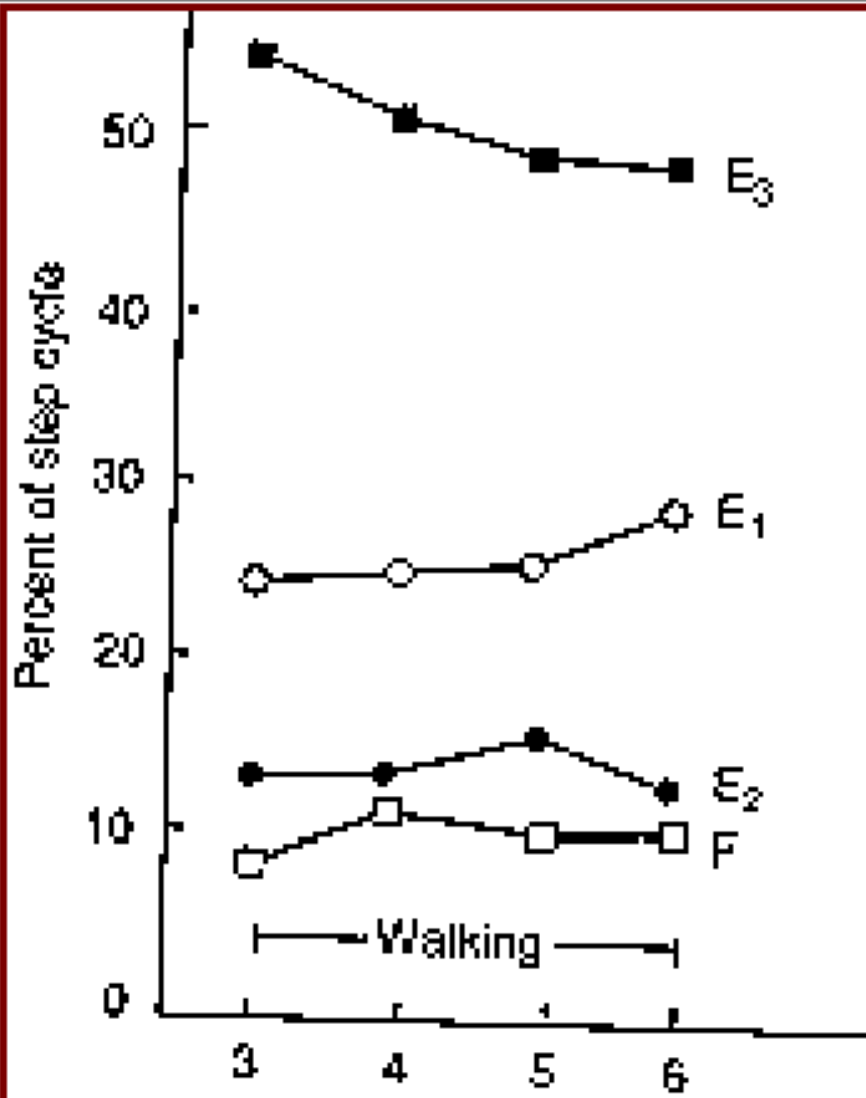


Appoggio  
del tallone  
a terra

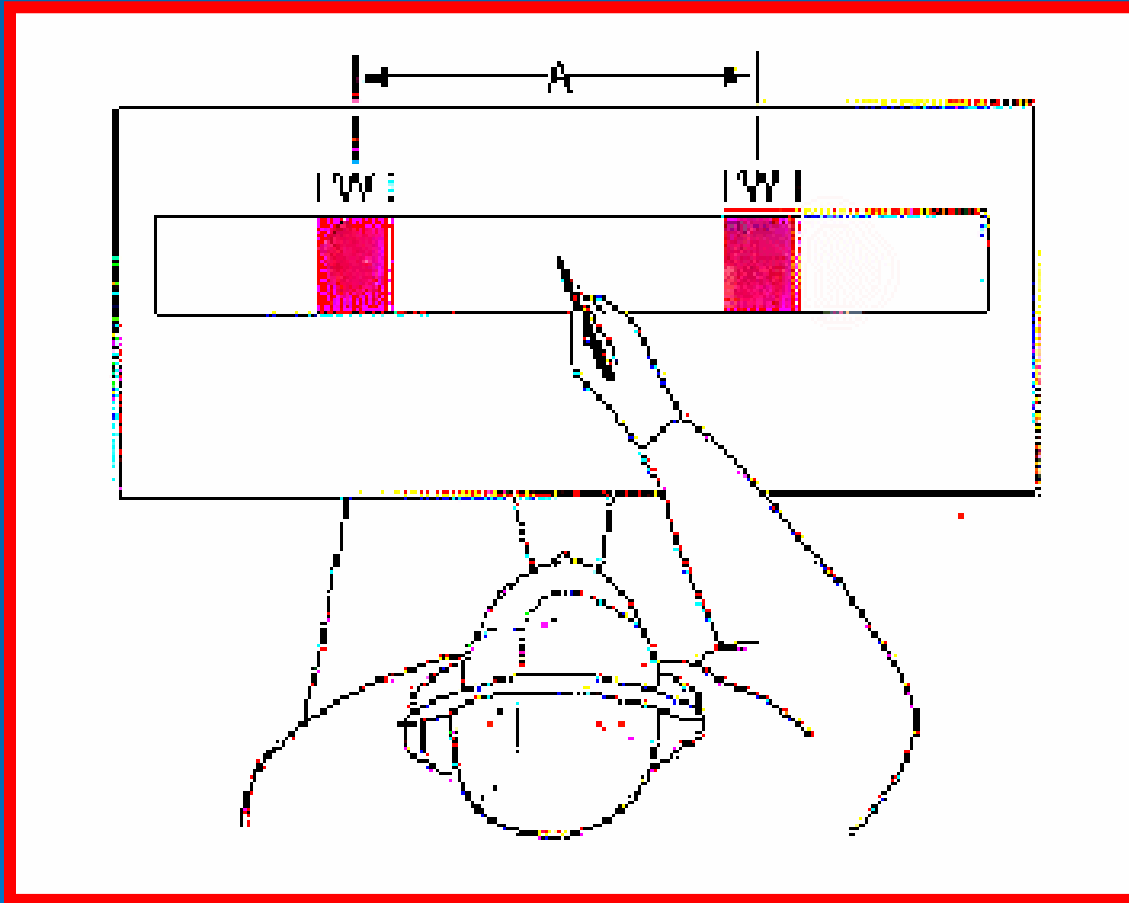
Distacco  
dal suolo  
della punta  
del piede

Appoggio  
del tallone  
a terra

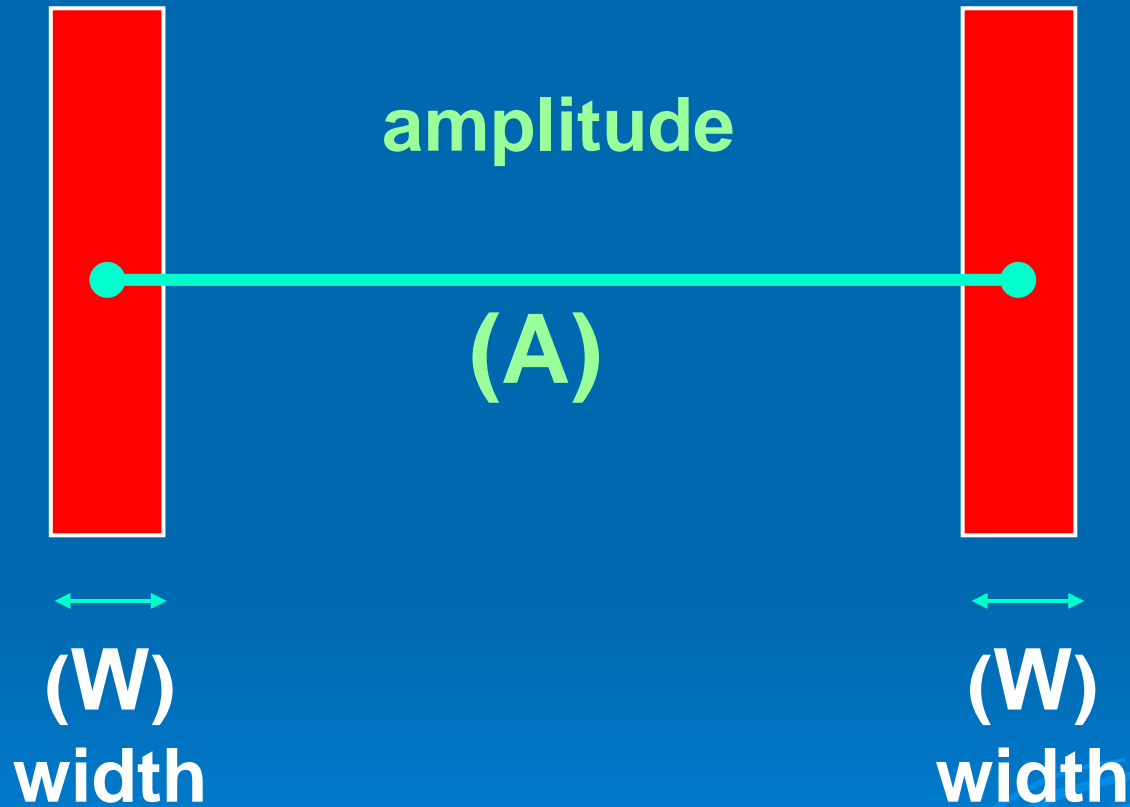




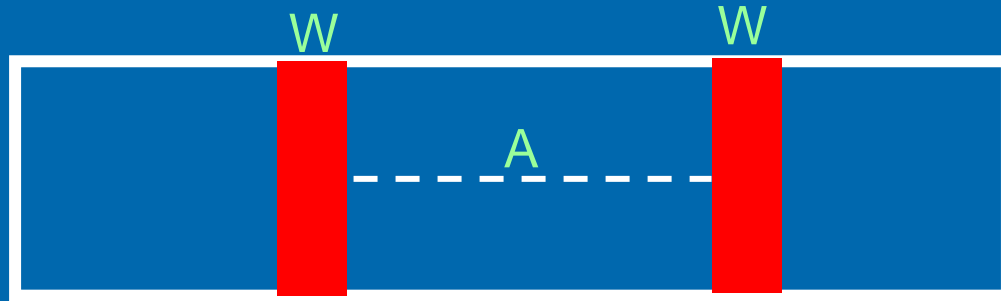
# Legge di Fitts



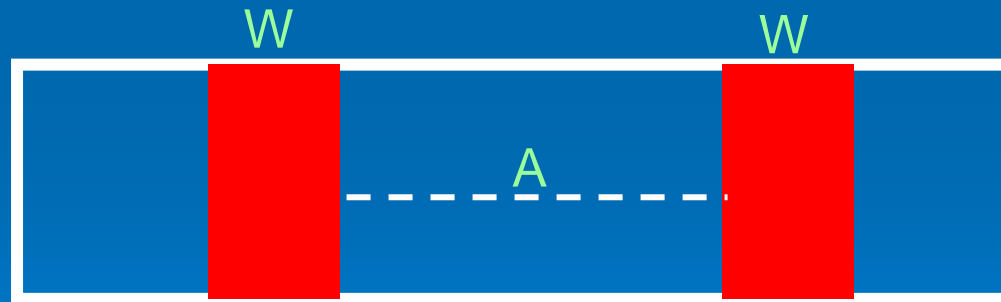
Compito di tapping



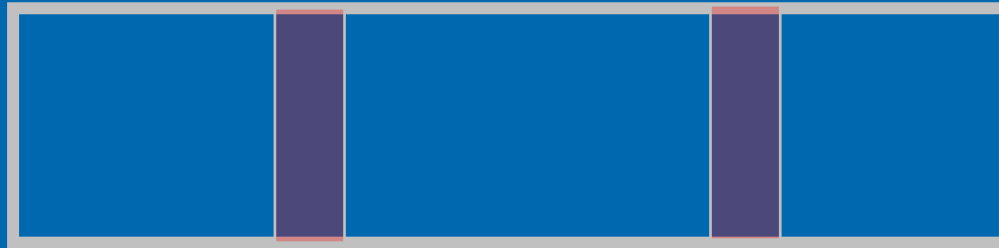
A



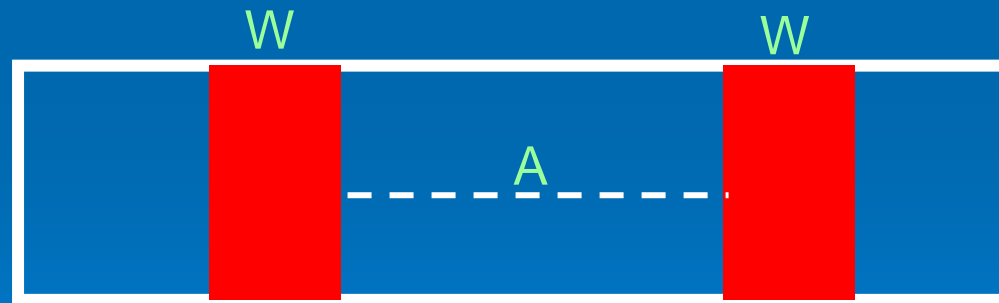
B



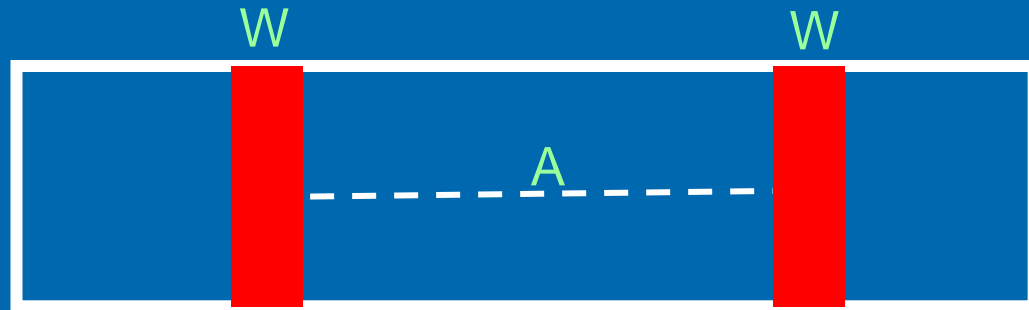
A



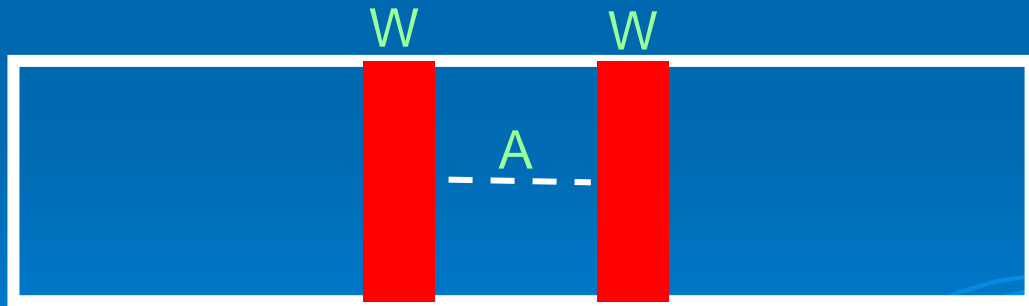
B



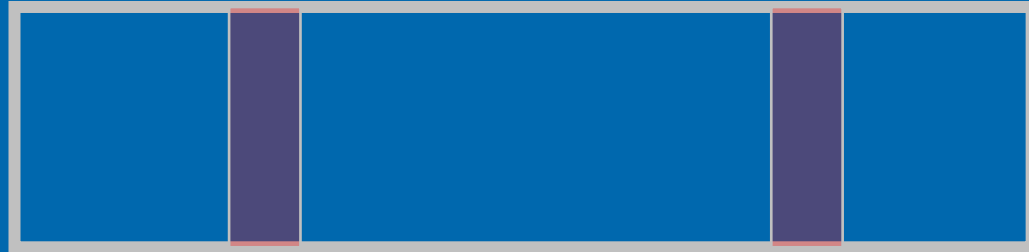
A



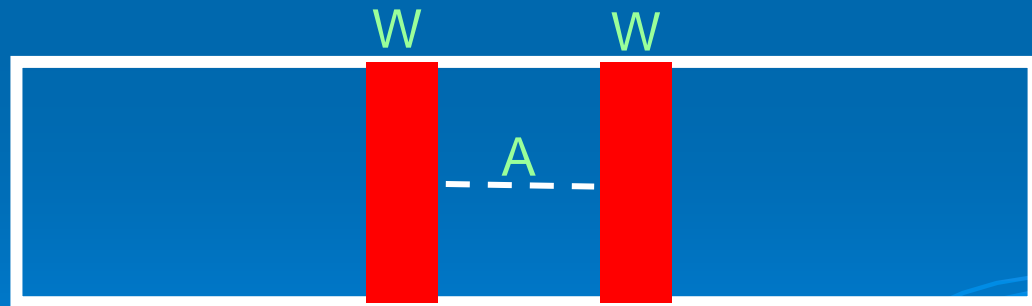
B



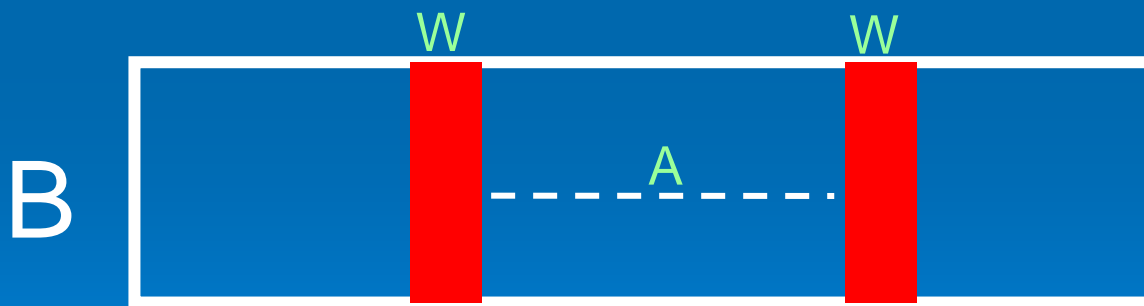
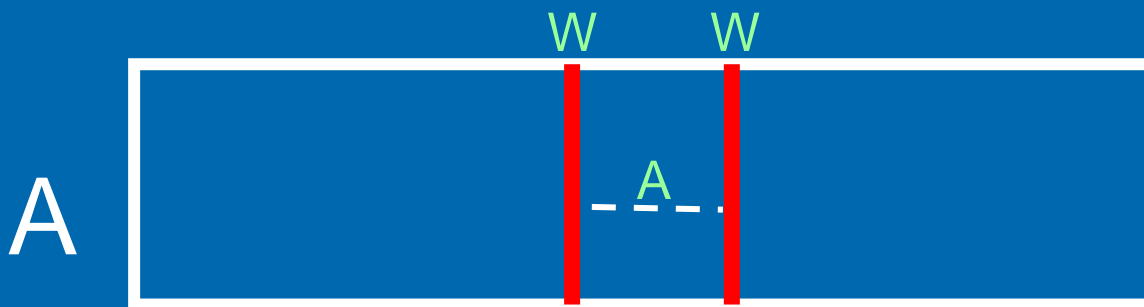
A

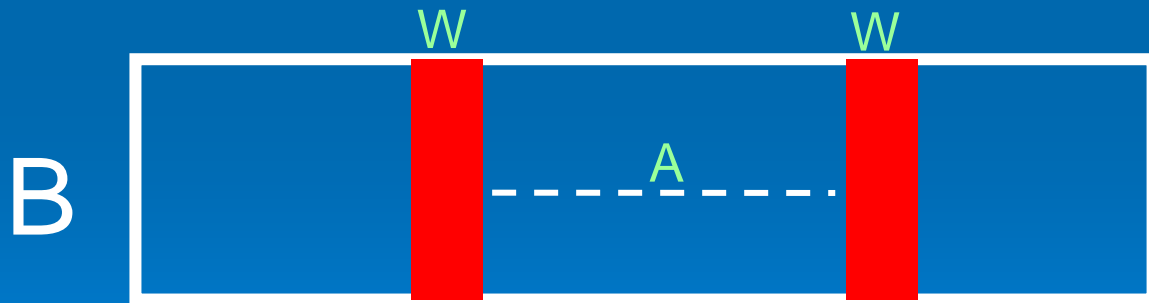
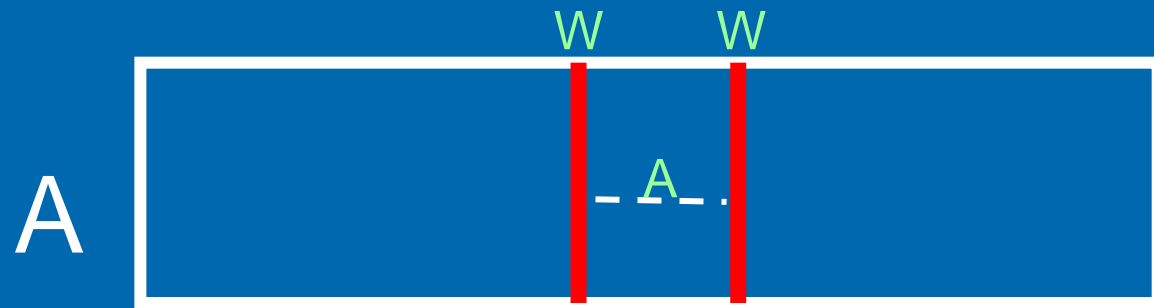


B

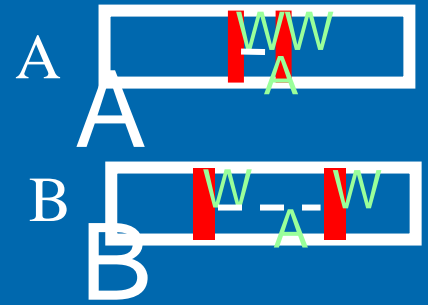








Tempo Medio (TM) = K



$$(2A) / W = K$$

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$$A = 100$$

$$W = 50$$

$$A = 10$$

$$W = 5$$

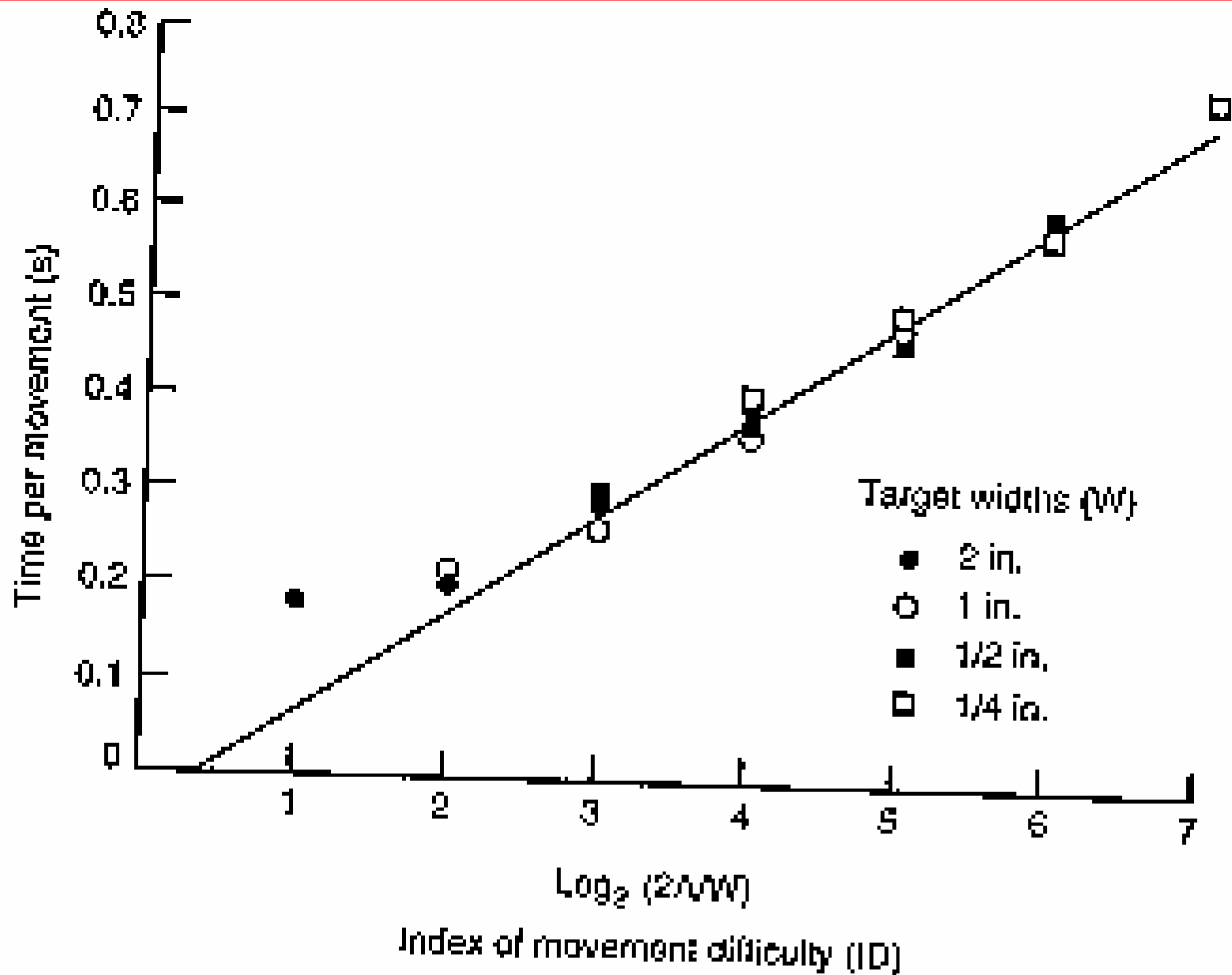
$$TM = K$$

# LEGGE DI FITTS

$$TM = a + b \left[ \text{Log}_2(2A/W) \right]$$

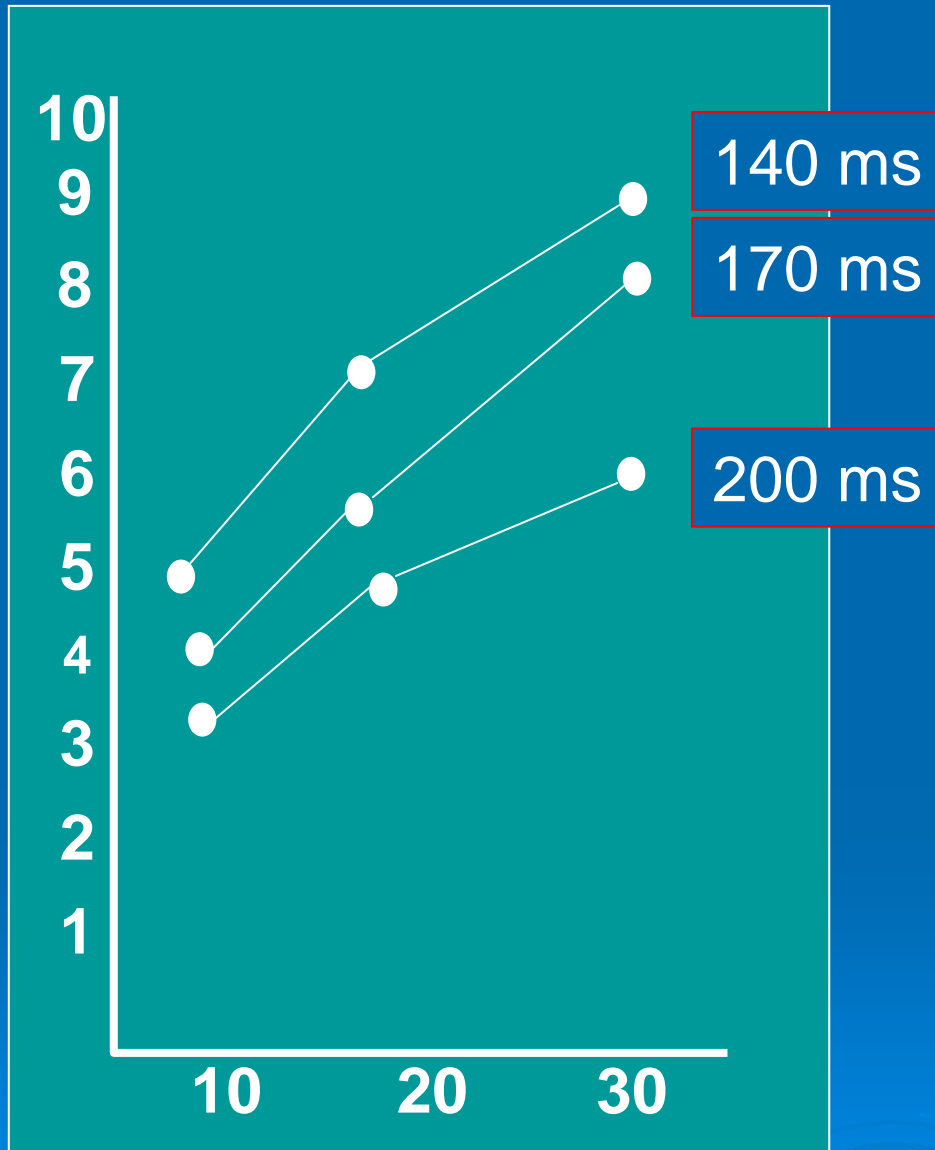
$$ID = \text{Log}_2(2A/W)$$

ID = indice di difficoltà



Esiste una relazione lineare tra il TM e ID

Variabilità dei punti di arrivo (mm)



140 ms

170 ms

200 ms

Tempo  
di  
movimento

Ampiezza di movimento (cm)