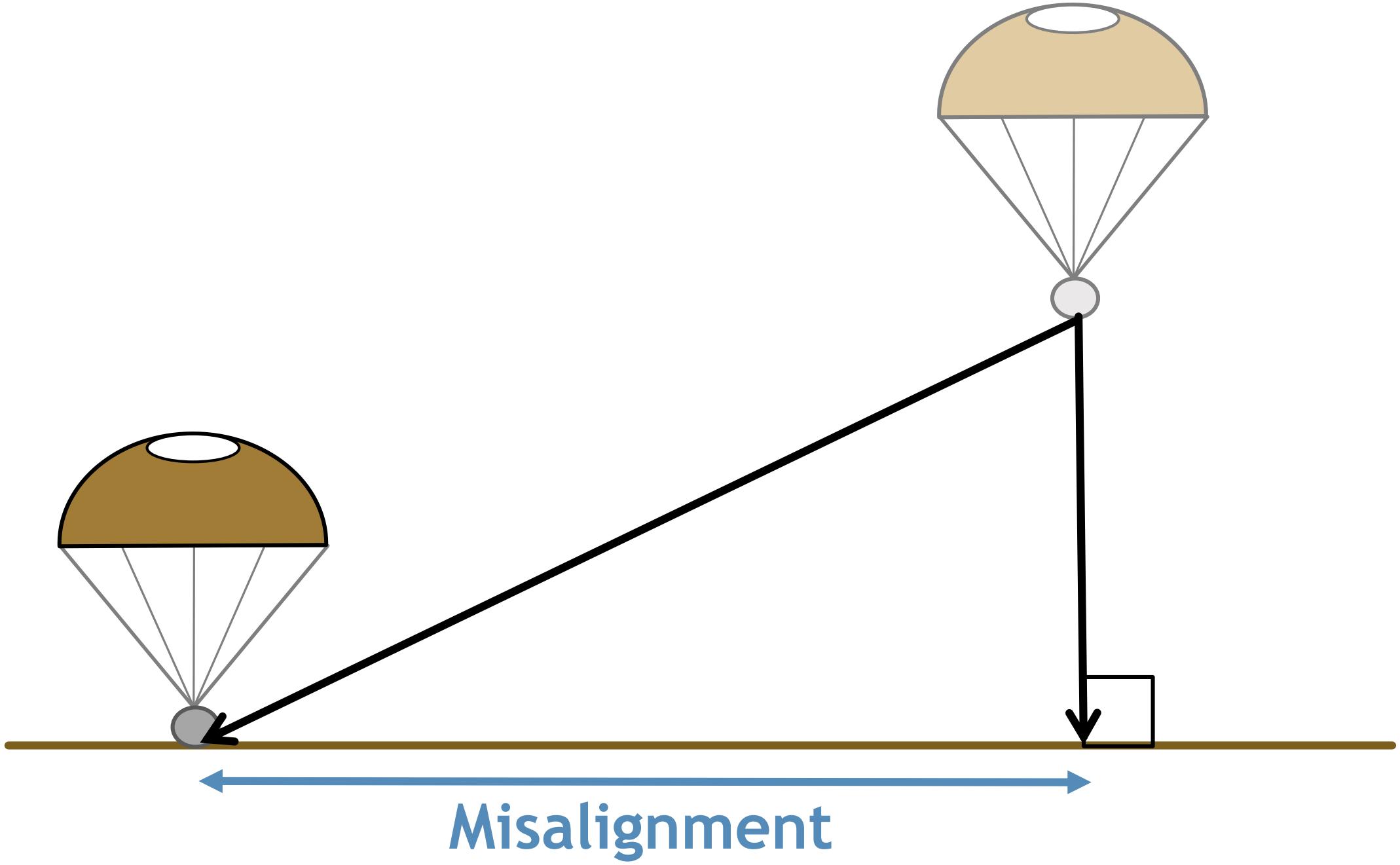
Study of Relationships Between Misalignments, Descent Speed and the Shape of the Parachutes

Kurashiki Amaki High School

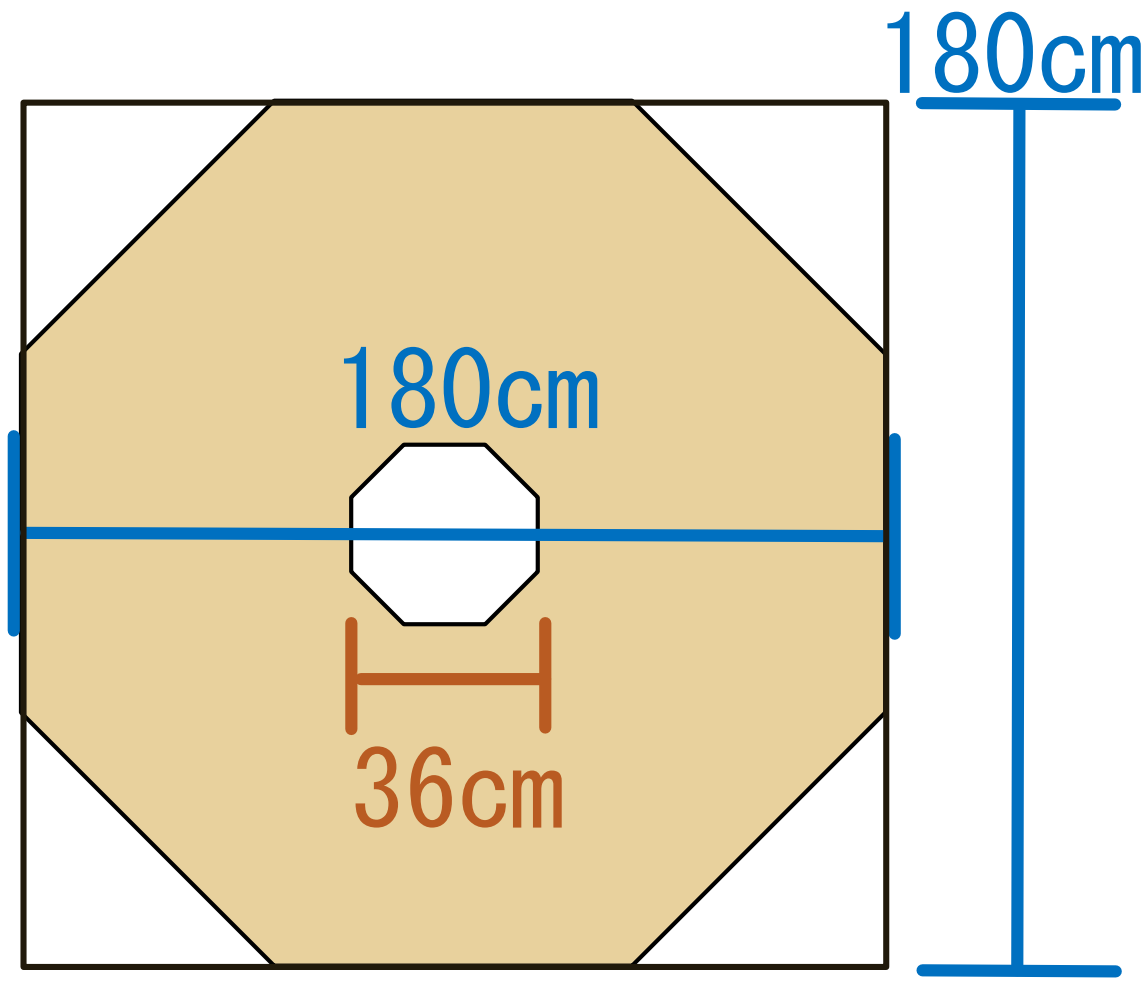
2 ZERO HUNGER

We want to deliver supplies to people suffering from hunger!

Feed My Starving Children (FMSC)

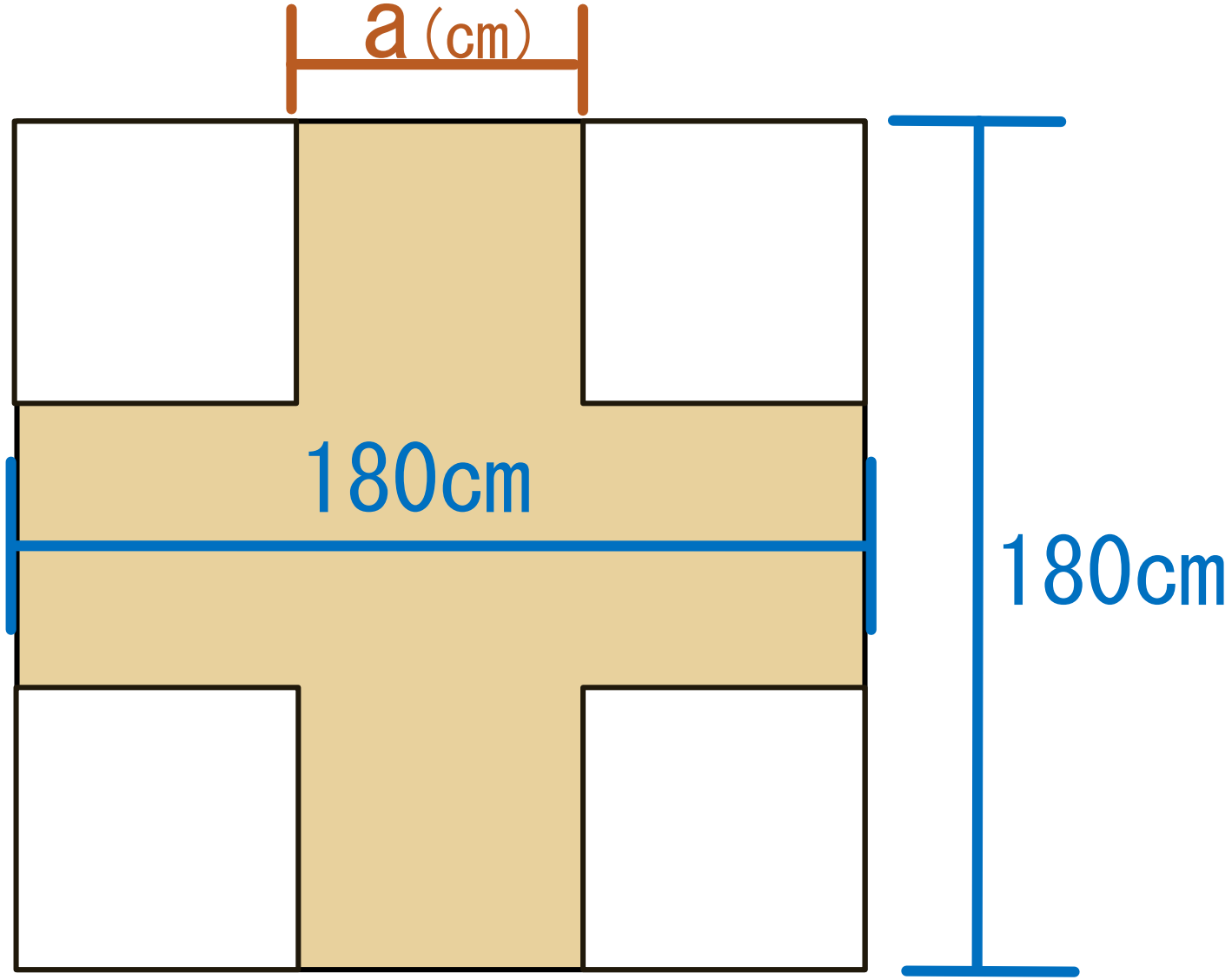

Misalignment

Octagon Parachute



Plan view of canopy

Cross Parachute



Plan view of canopy

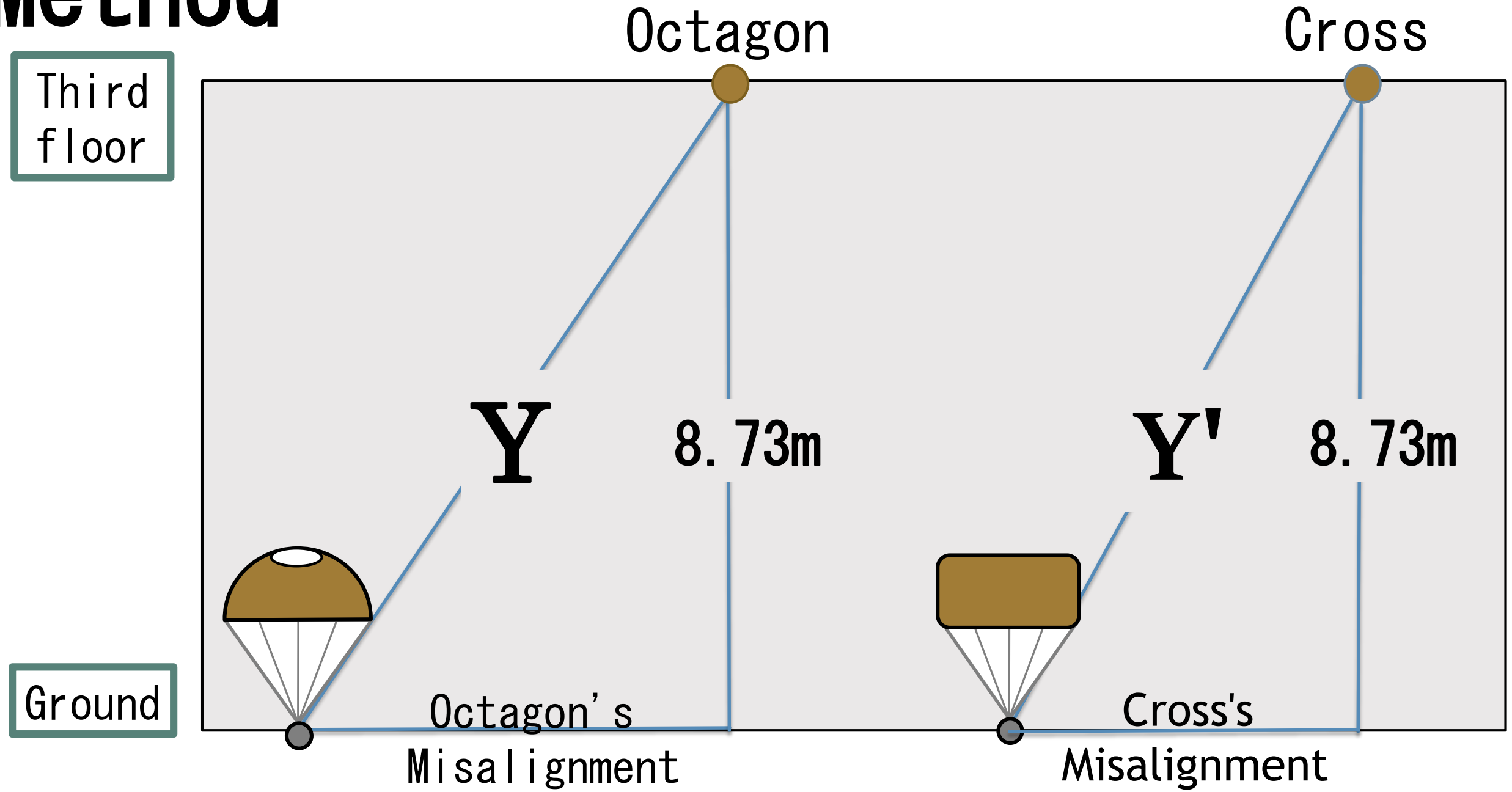
Cross Parachute

40cm

80cm

160cm

Method


Octagon
Cross
Third floor
Y
8.73m
Y'
8.73m
Ground
Octagon's Misalignment
Cross's Misalignment

How to derive..

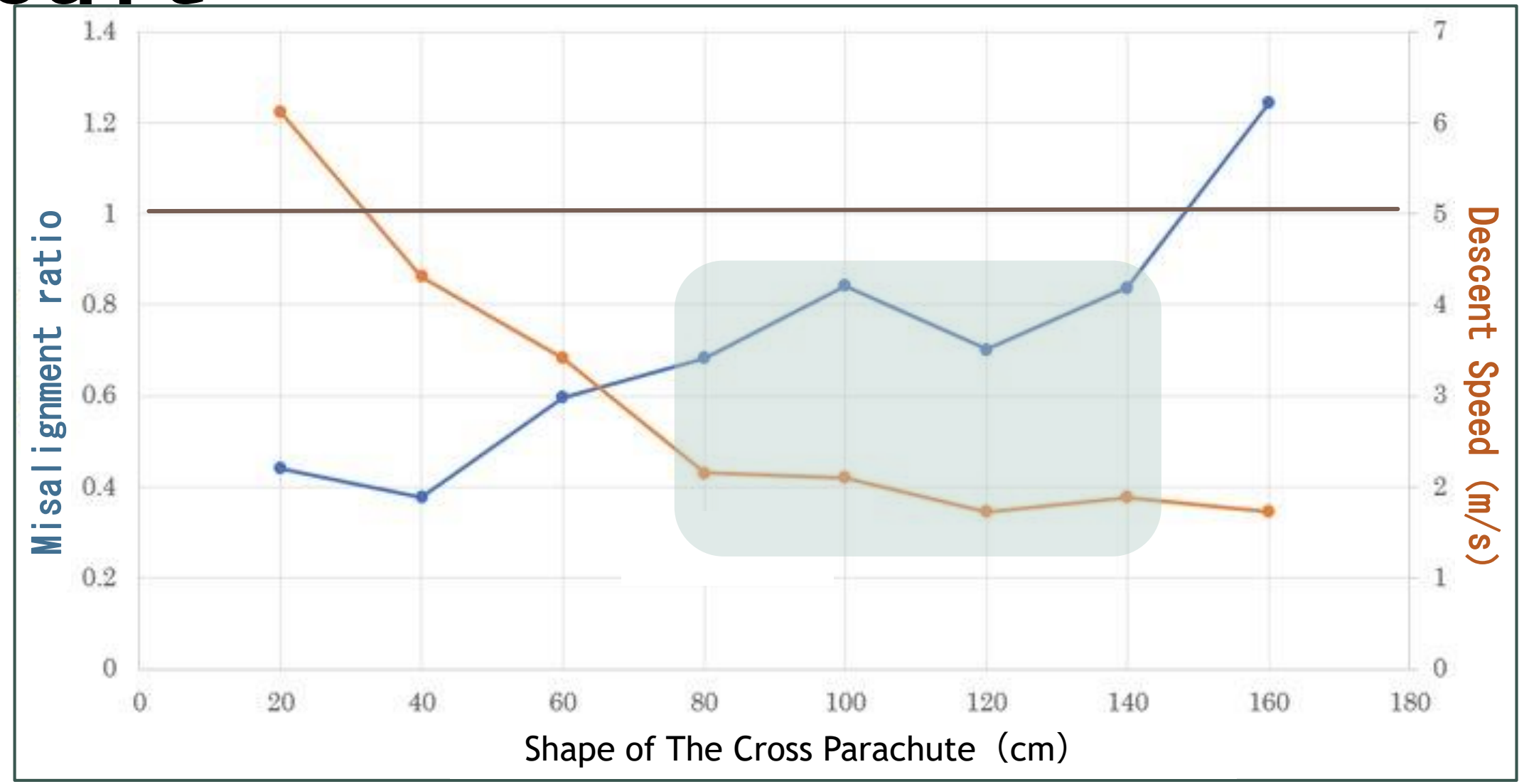
$$\text{Descent speed (m/s)} = \frac{Y_{(m)}}{\text{descent time}}$$

How to derive..

Misalignment ratio

$$= \frac{\text{Misalignment of cross parachute per second (m/s)}}{\text{Misalignment of octogon parachute per second (m/s)}}$$

Result



Graph3　Relationships between Misalignments, Descent speed and The Shape of Parachutes

Conclusion and the Future Goals

- The parachutes, sides of 80cm～140cm were the best.

- The future goal is to make new parachute and help people.