

Lesson 2 - Representing Forces

Physics - KS3

Forces and Motion

Mrs Wolstenholme



Reminder

A: Magnetism

B: Upthrust

C: Weight

D: Air resistance

E: Water
resistance

F: Friction

G: Normal contact

H: Thrust

1: Forward push of an object moving on a solid surface

2: Attraction (pull towards) or repulsion (push away) of magnets and magnetic materials

3: Attraction between two objects with mass (Gravity)

4: Upward push of water on an object

5: Force which slows objects moving along a solid surface

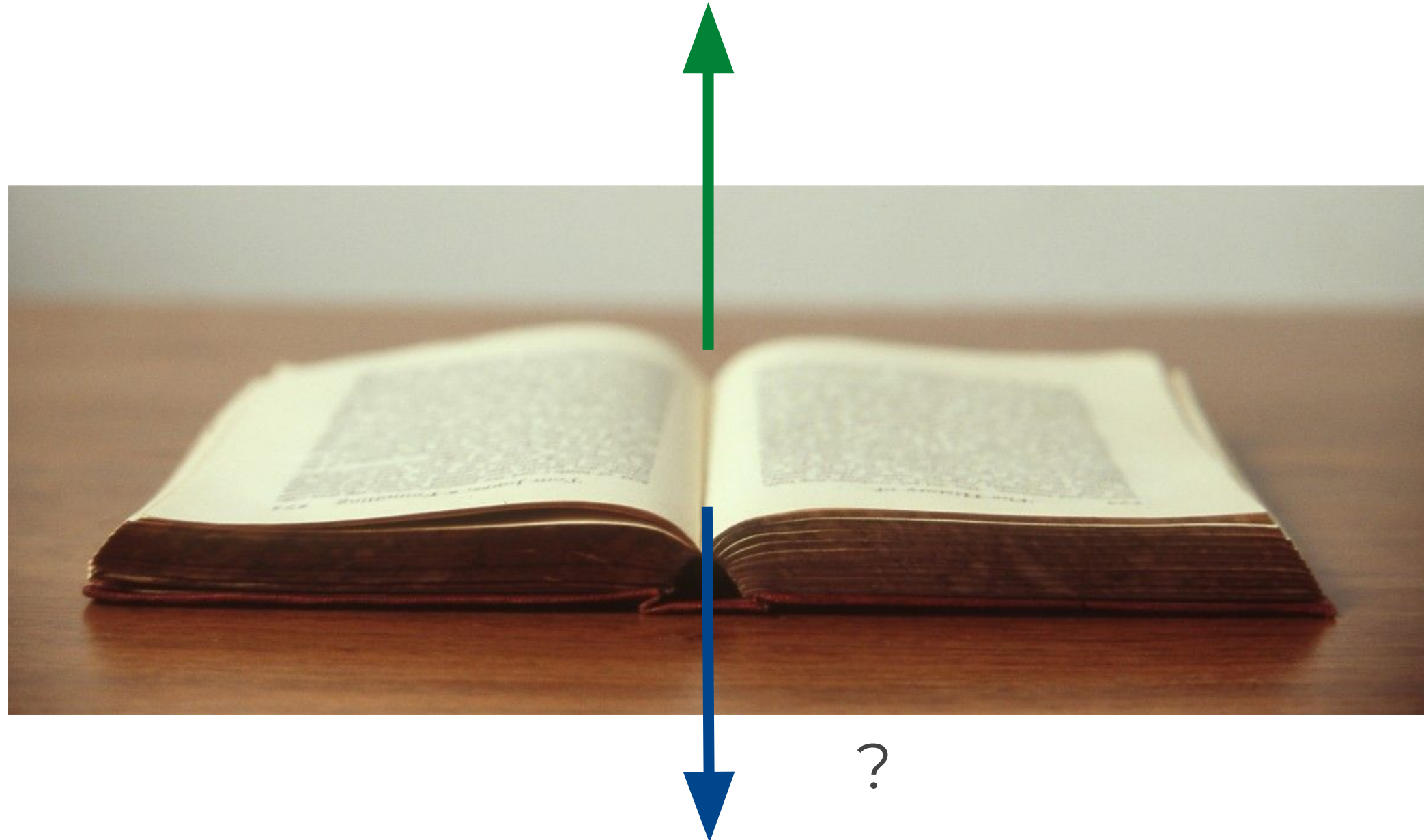
6: Upward push of a solid surface on an object

7: Force which slows objects moving through water

8: Force which slows objects moving through air



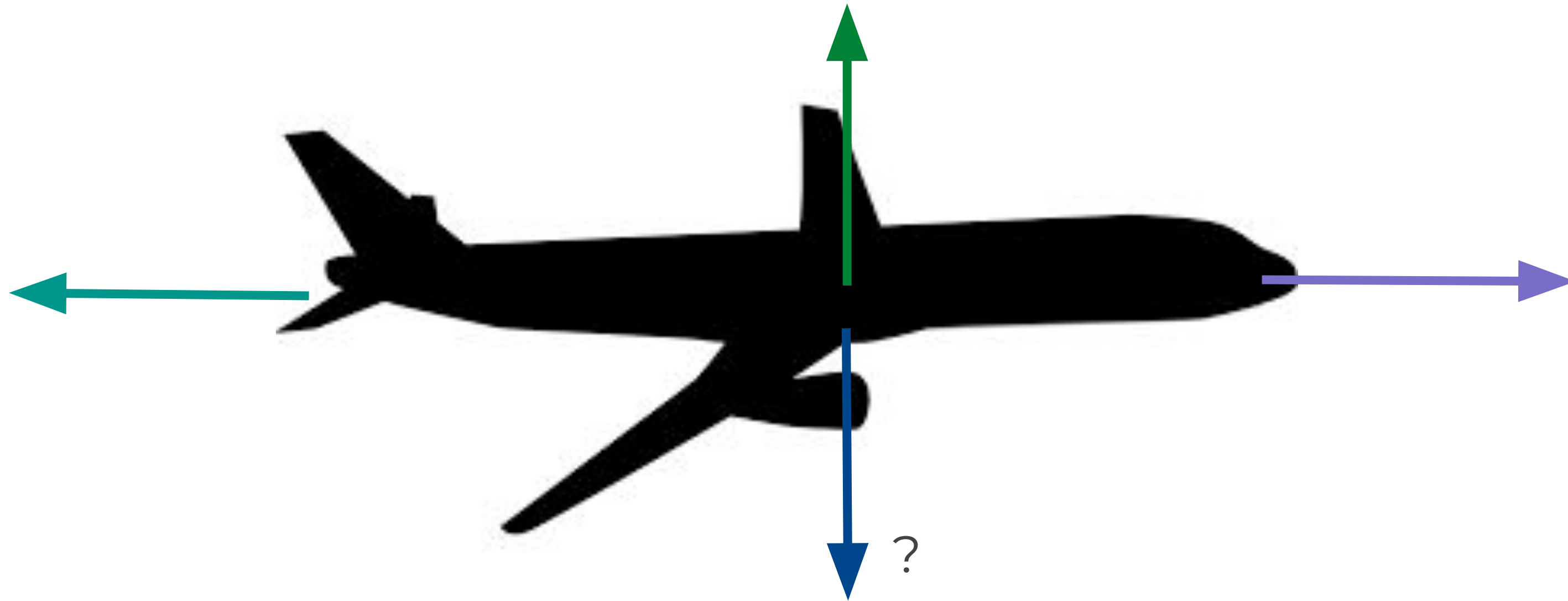
Name the Force



Credit: no attribution required



Name the Force

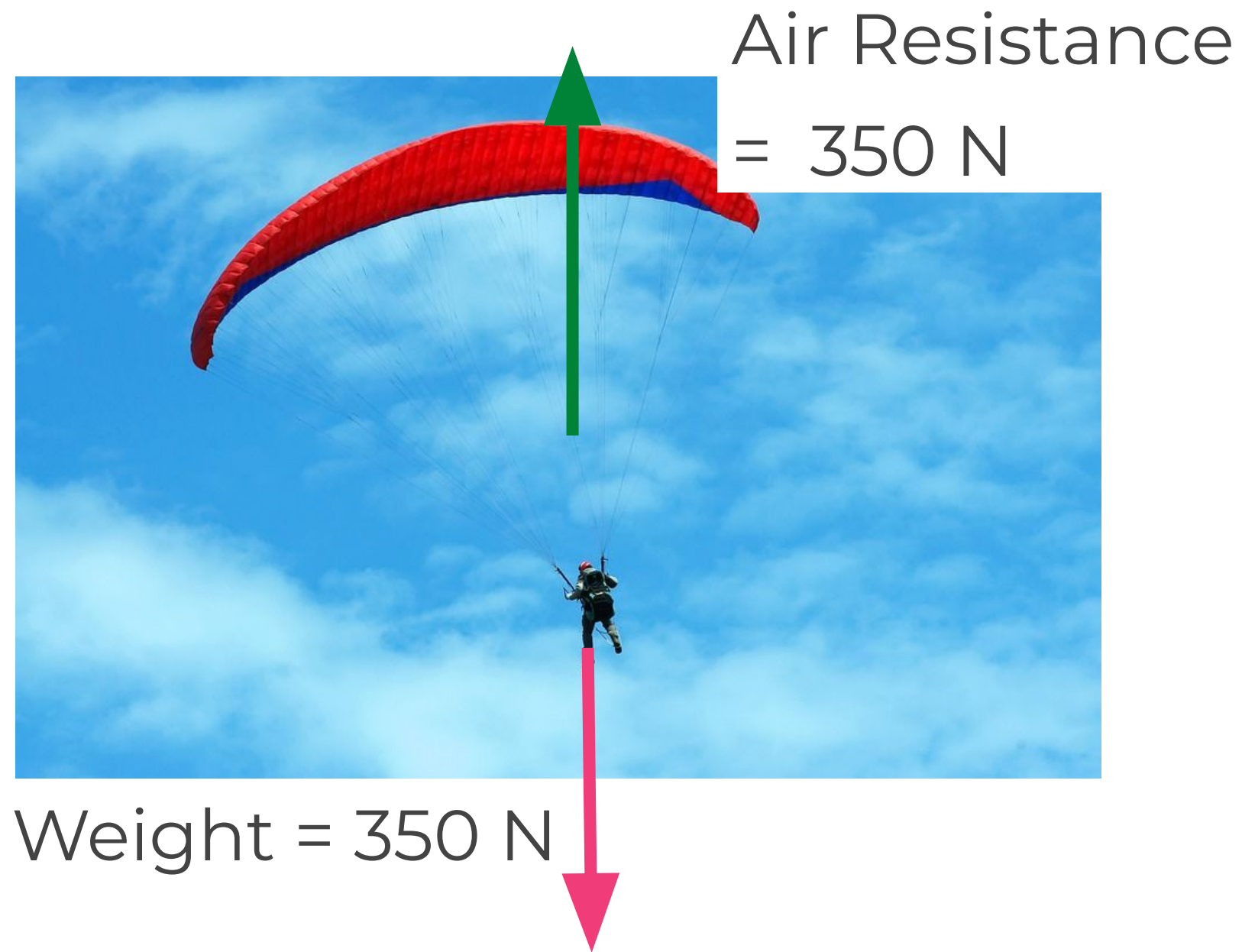


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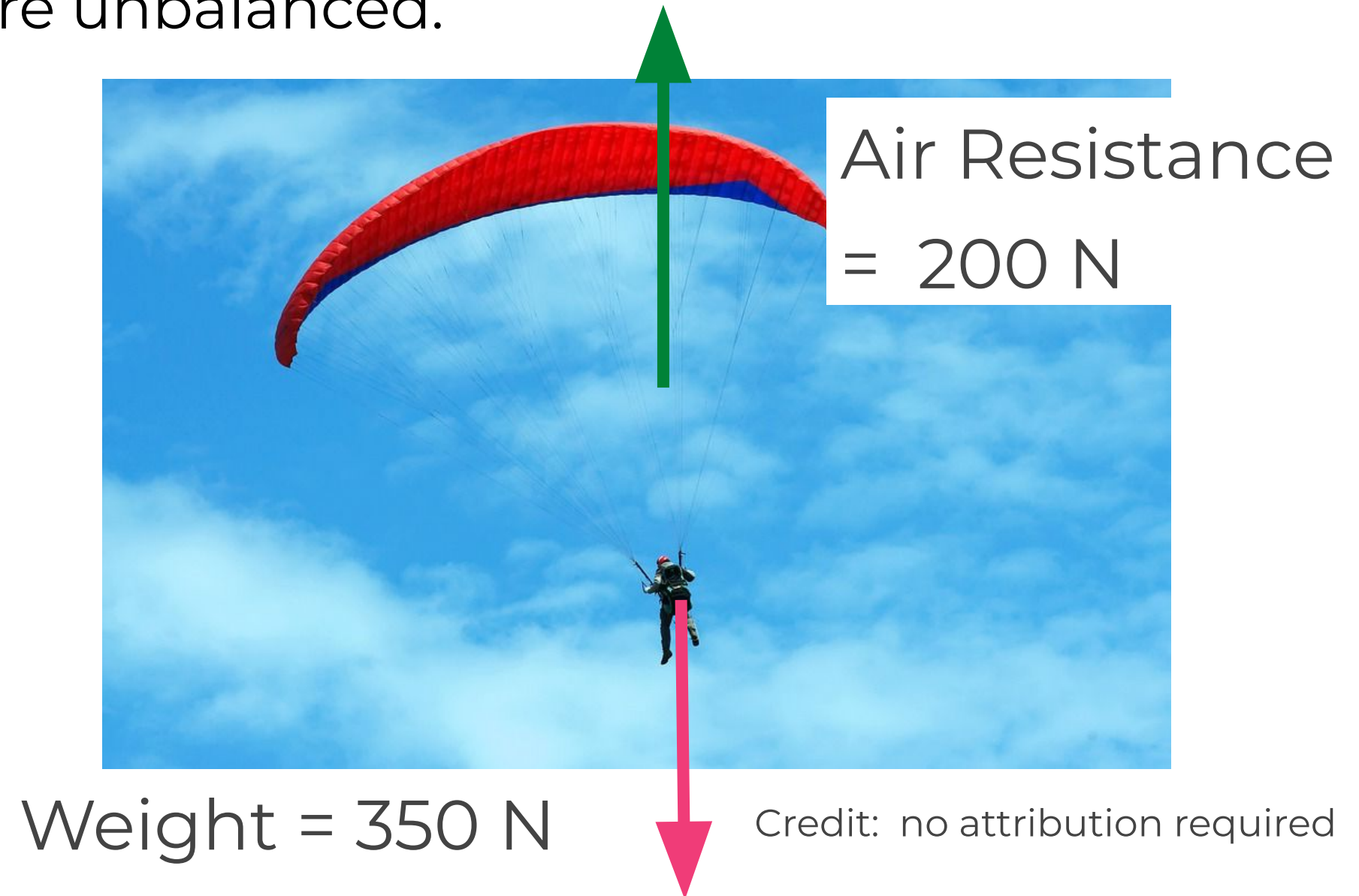


Balanced and Unbalanced Forces

If forces in opposite directions are equal, the forces are balanced.



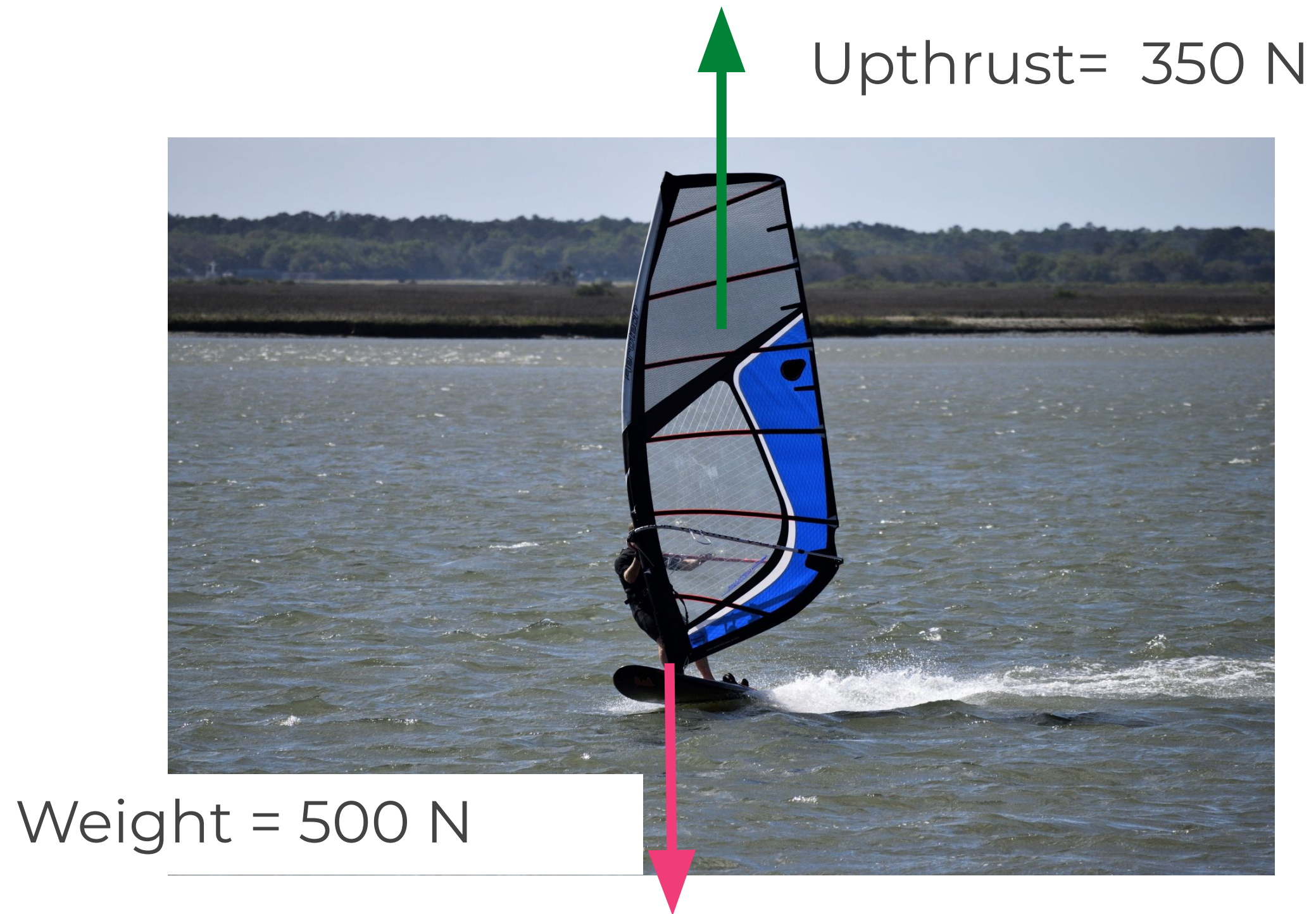
If one of the forces is larger than the other, the forces are unbalanced.



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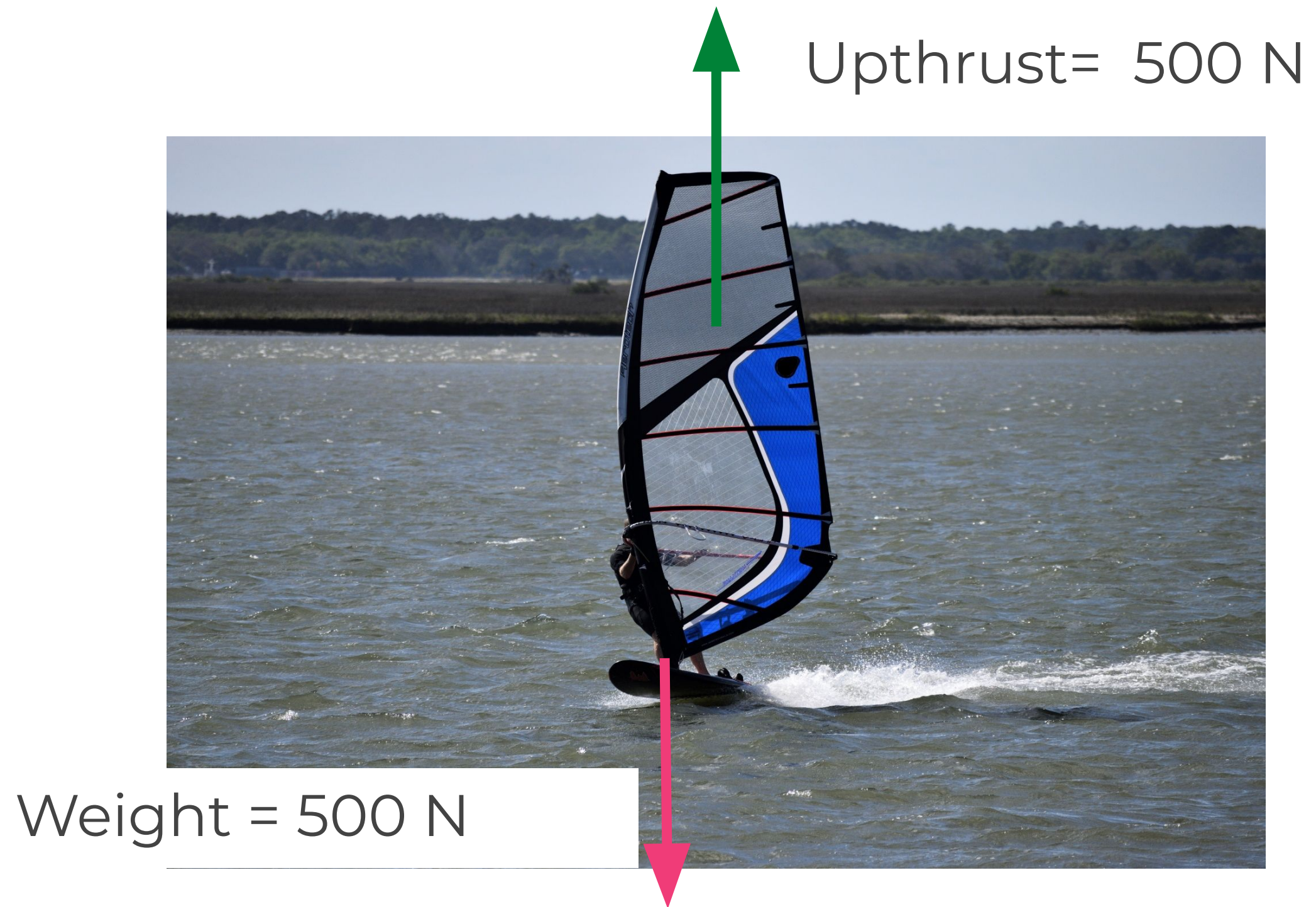
Balanced or Unbalanced?



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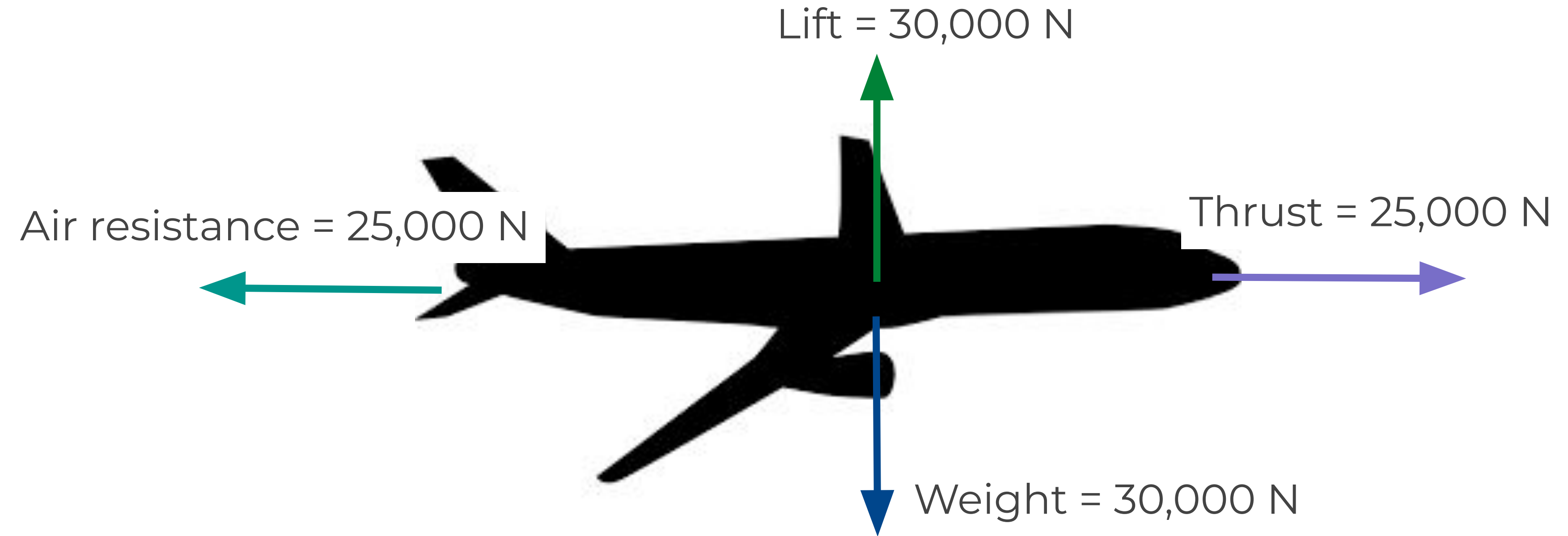
Balanced or Unbalanced?



Credit: no attribution required



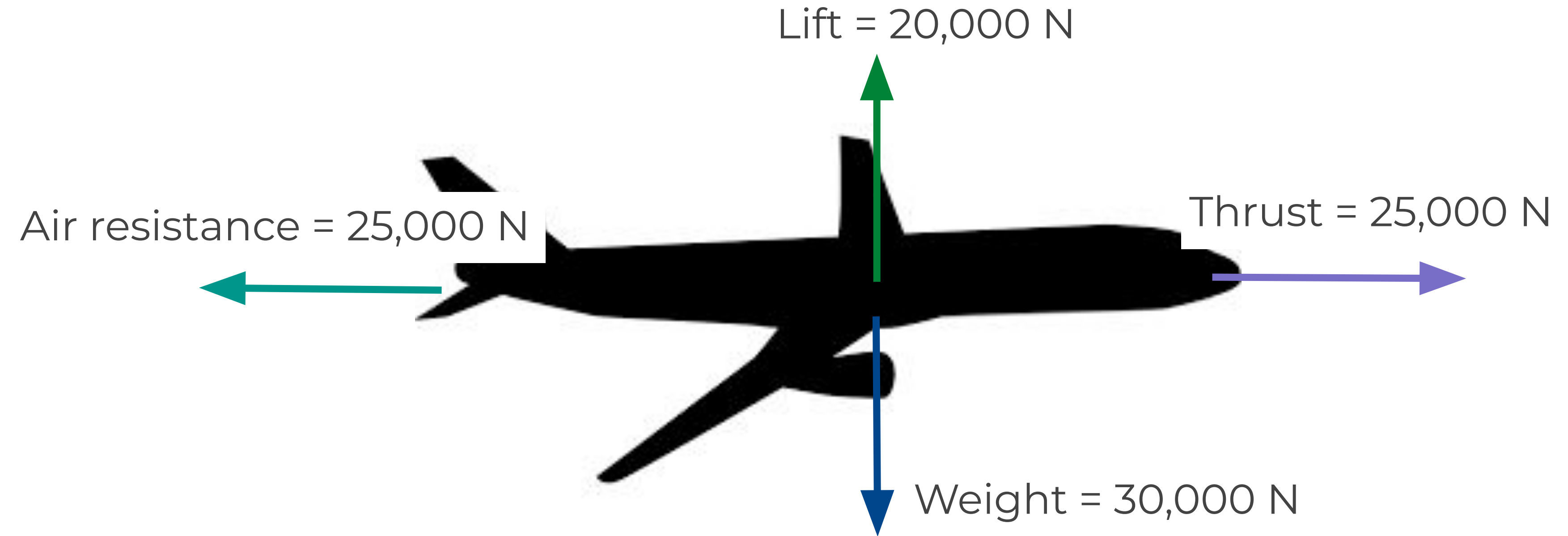
Balanced or Unbalanced?



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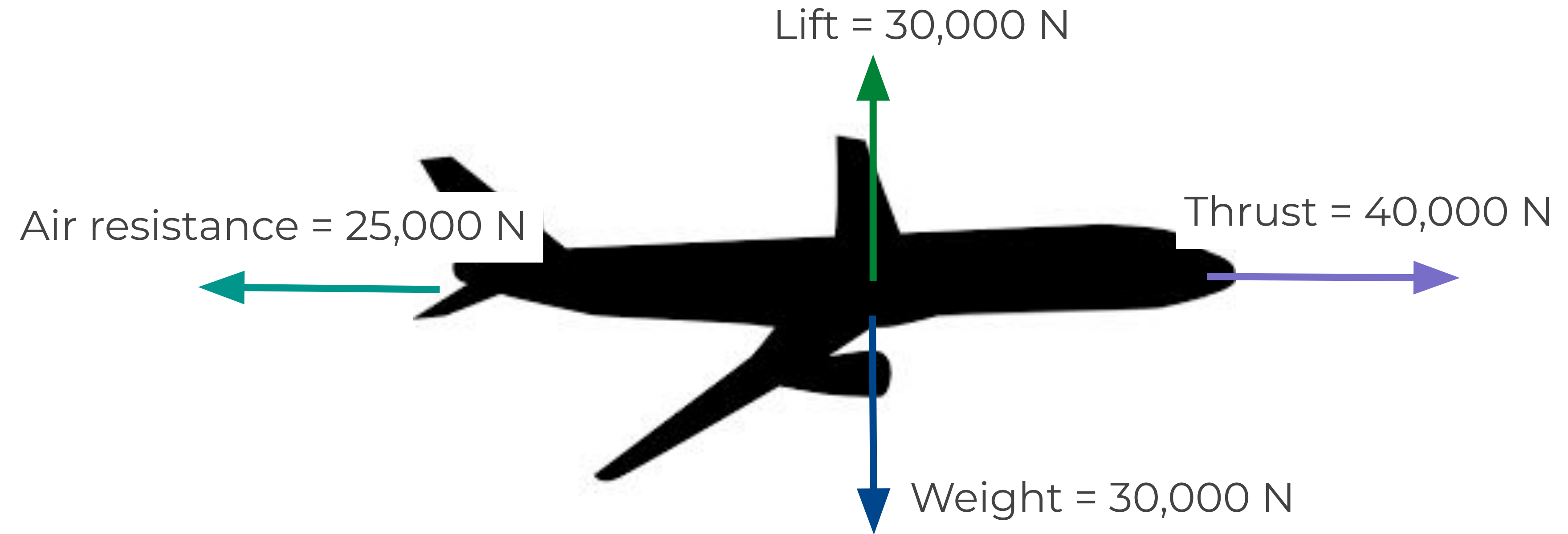
Balanced or Unbalanced?



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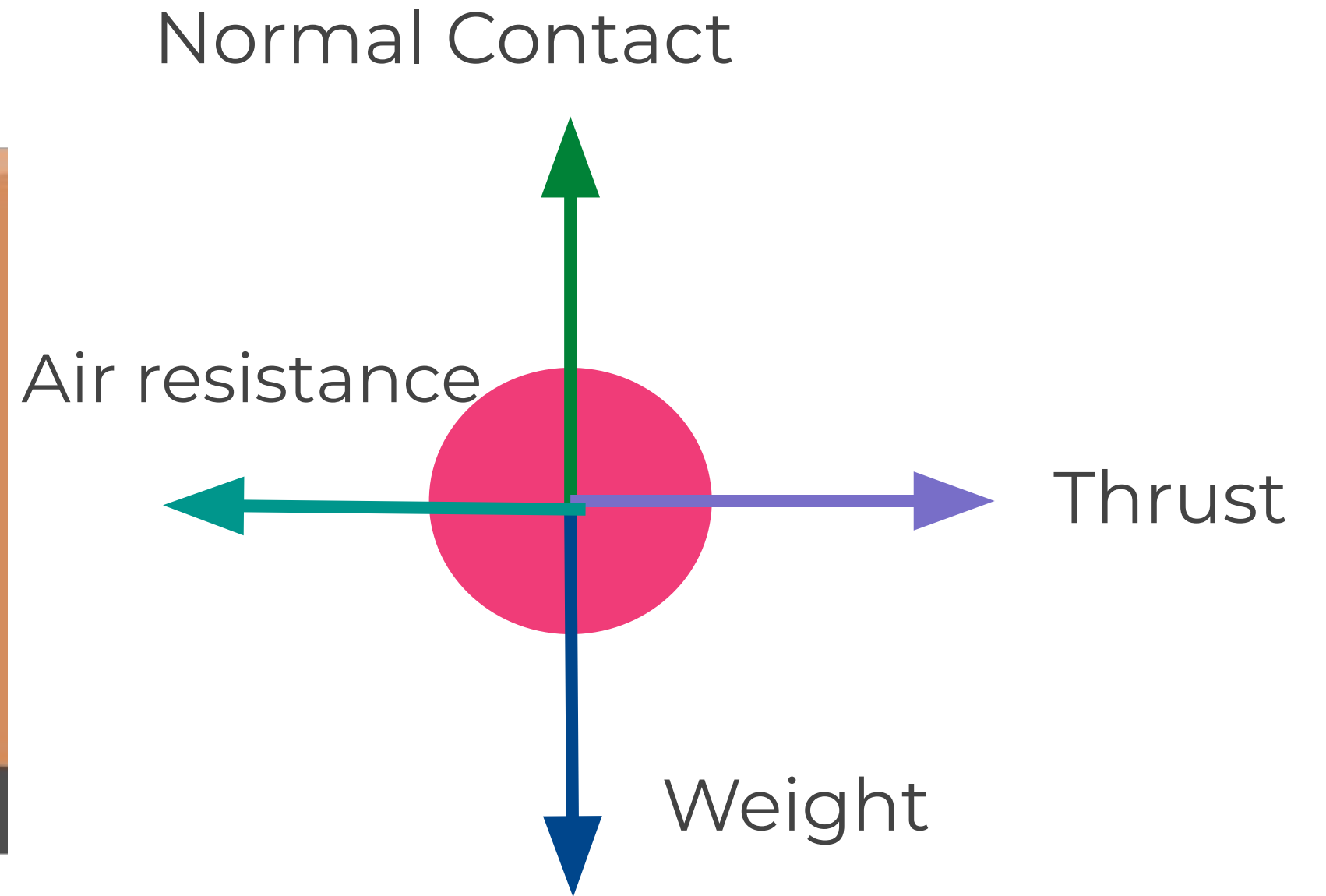
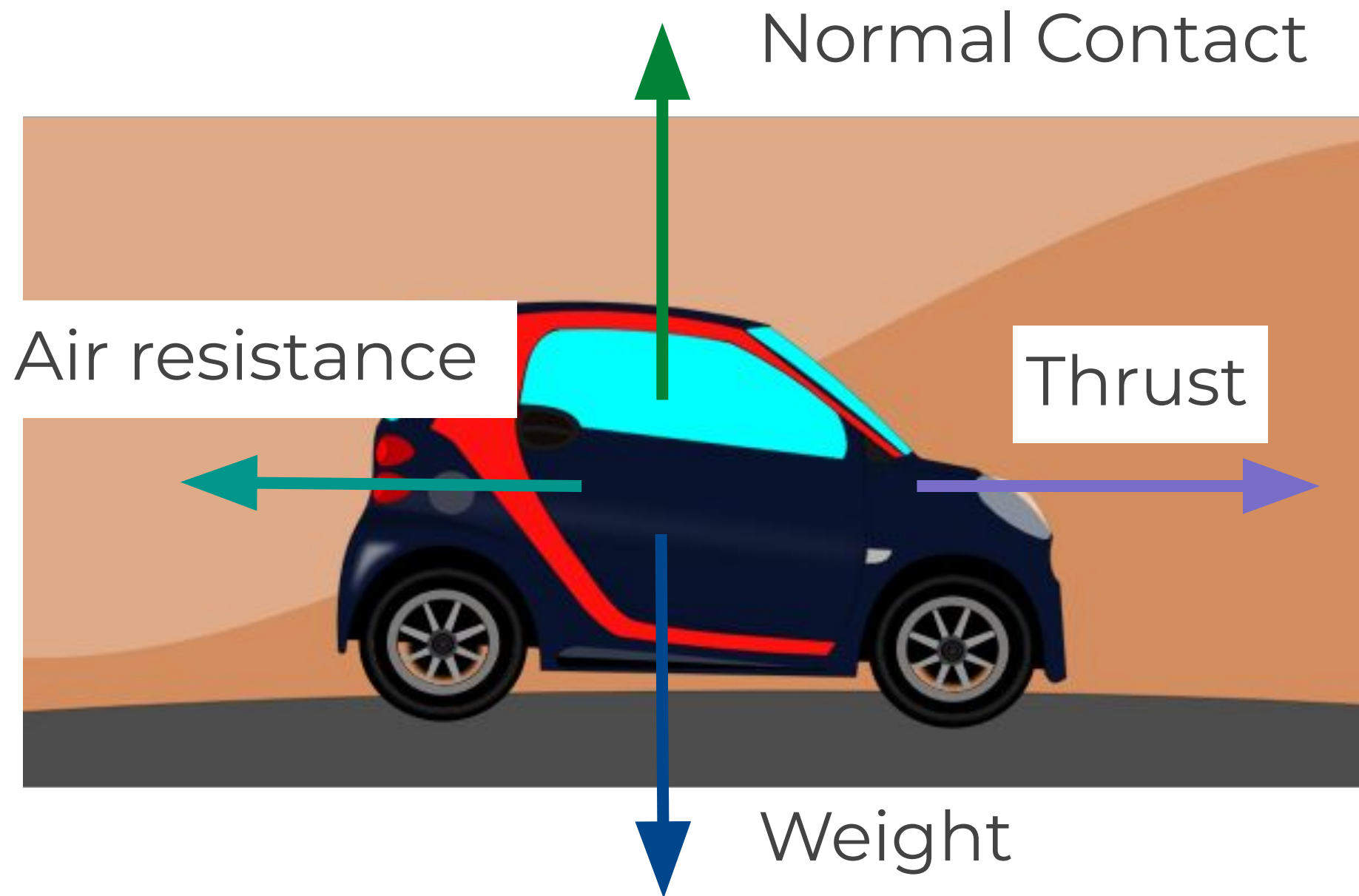
Balanced or Unbalanced?



Credit: no attribution required



Representing Forces



Credit: no attribution required



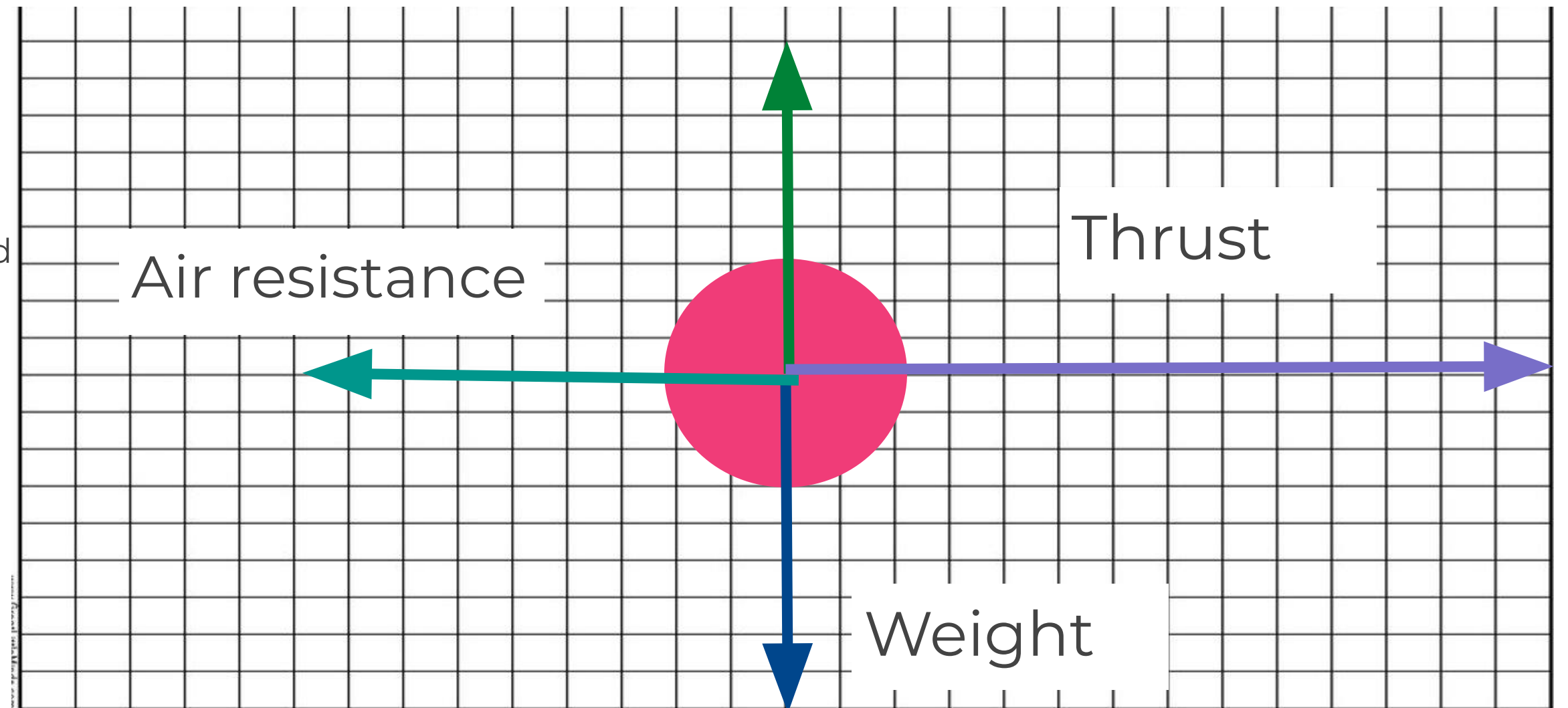
Representing Forces



Credit: no attribution required

Draw a diagram representing the forces on this truck. The thrust is larger than the air resistance.

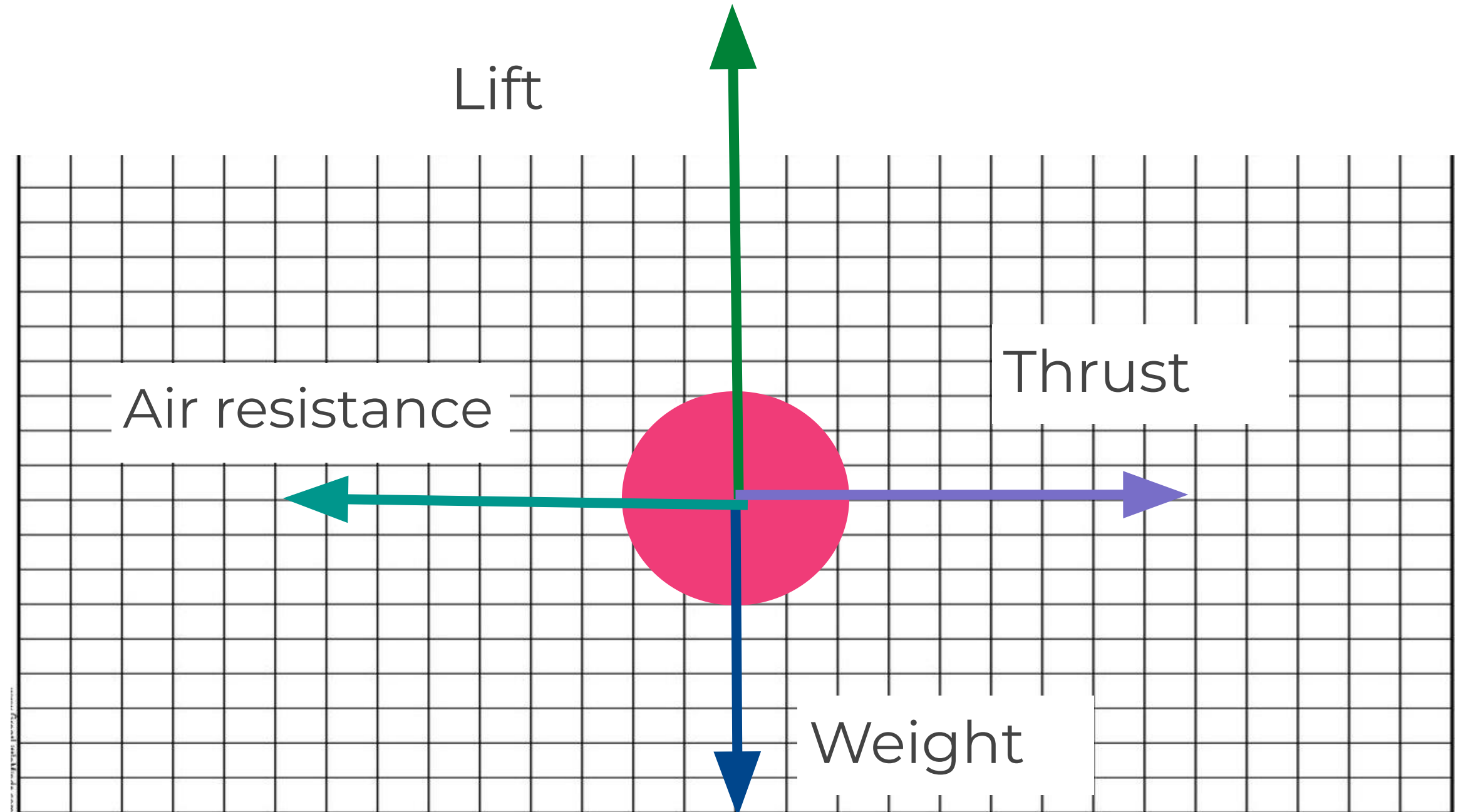
Normal Contact



Representing Forces



Draw a diagram representing the forces on this plane. The lift is larger than the weight. The thrust and air resistance are balanced.



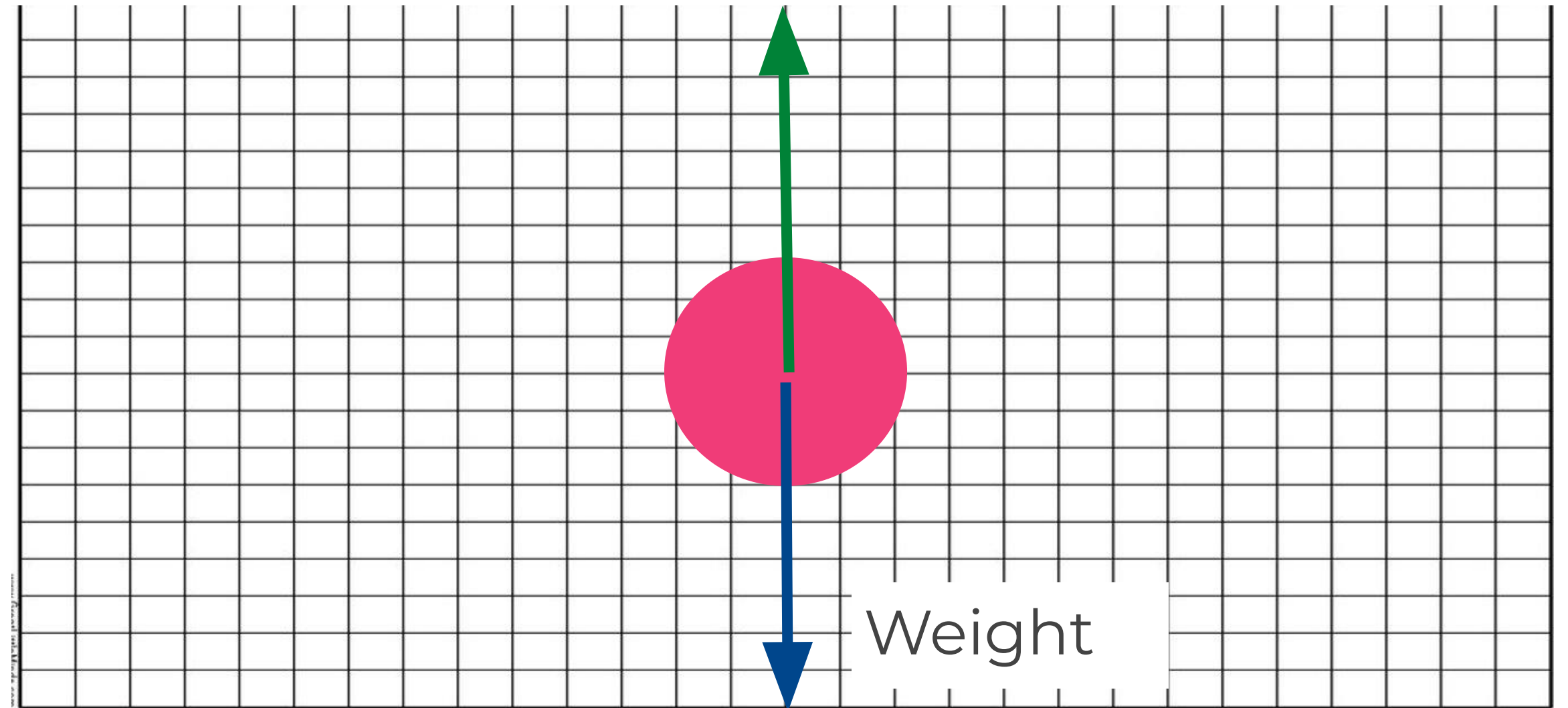
Representing Forces



Credit: no attribution required

Your Turn: Draw a diagram representing the forces on this car. The thrust and air resistance are balanced.

Normal Contact

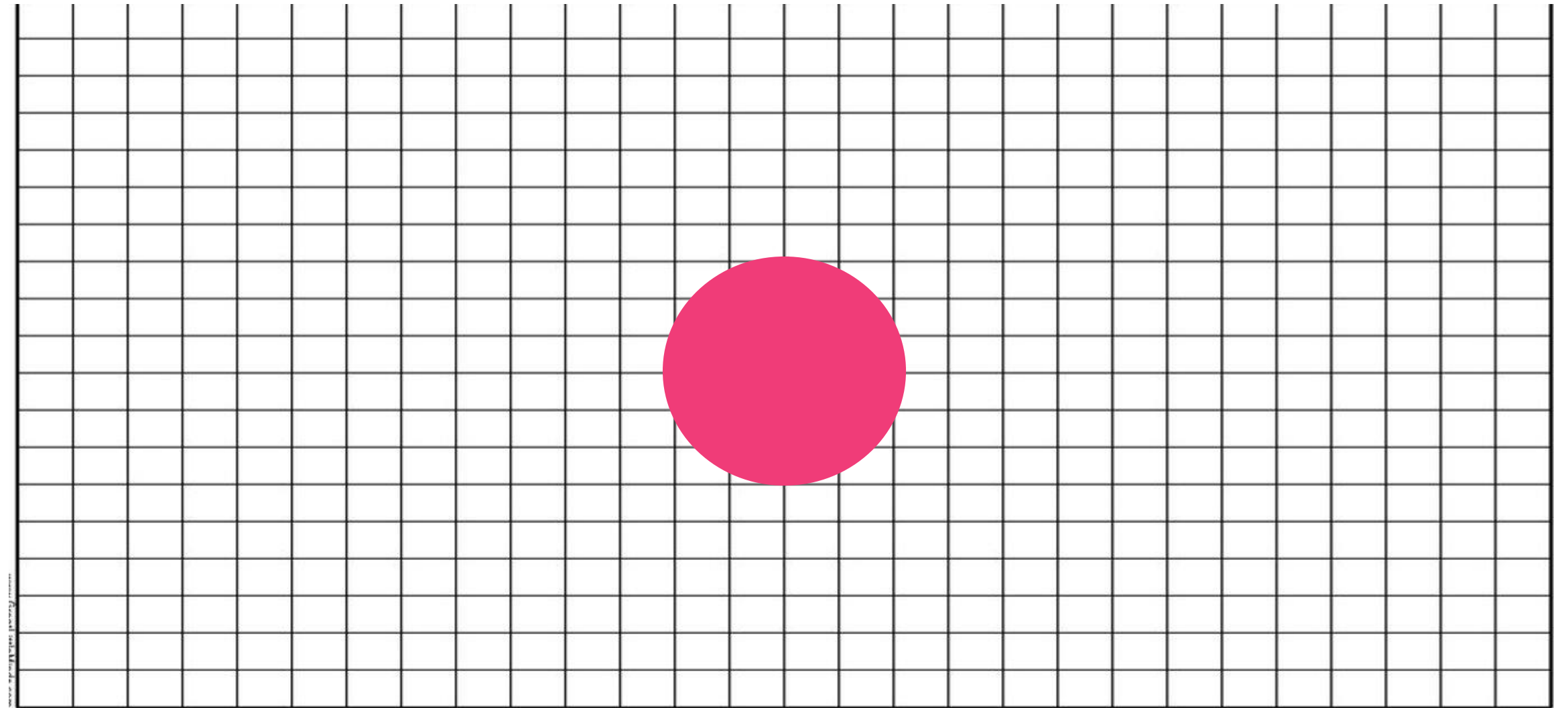


Representing Forces



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Your Turn: Draw a diagram representing the forces on this car. The thrust is larger than the air resistance.

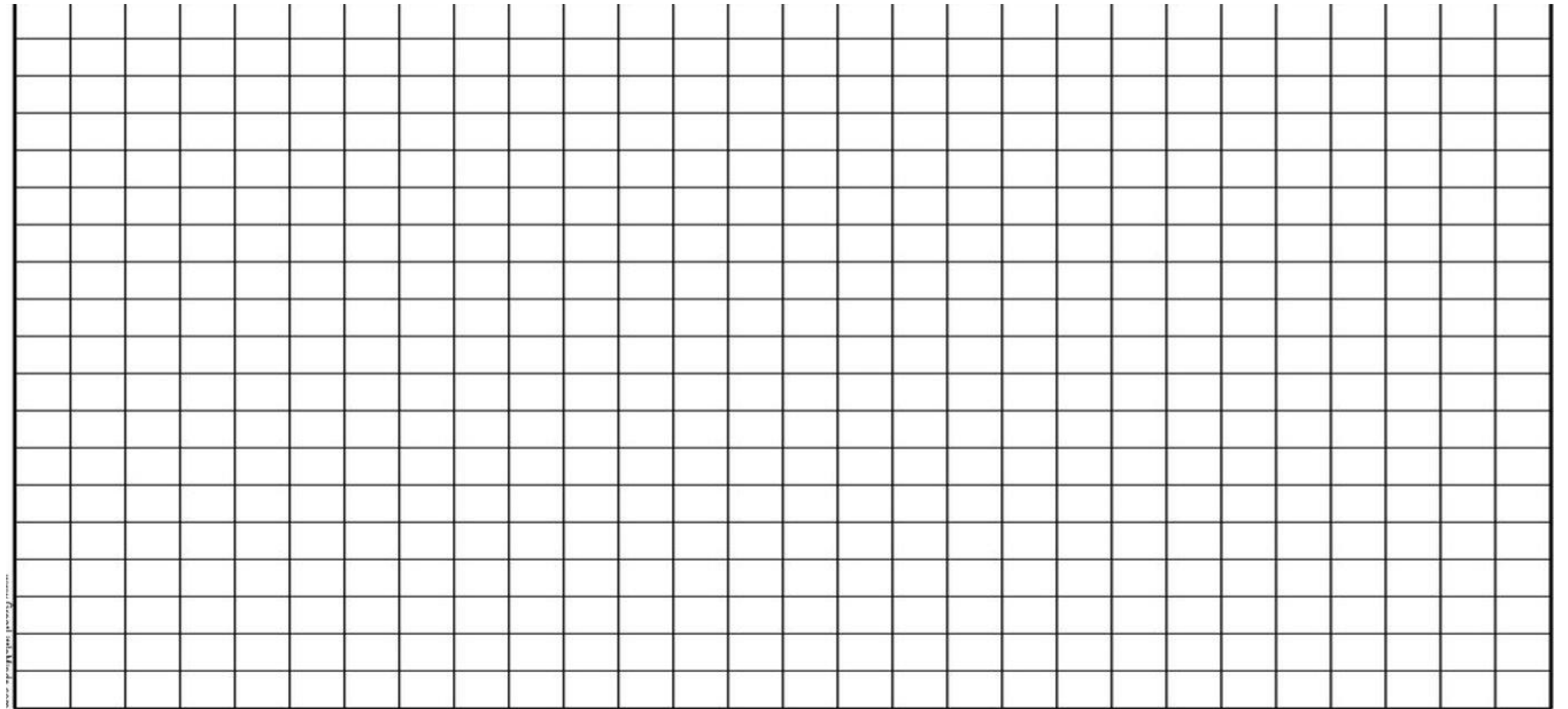


Representing Forces



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Your Turn: Draw a diagram representing the forces on this car. The thrust is smaller than the air resistance.



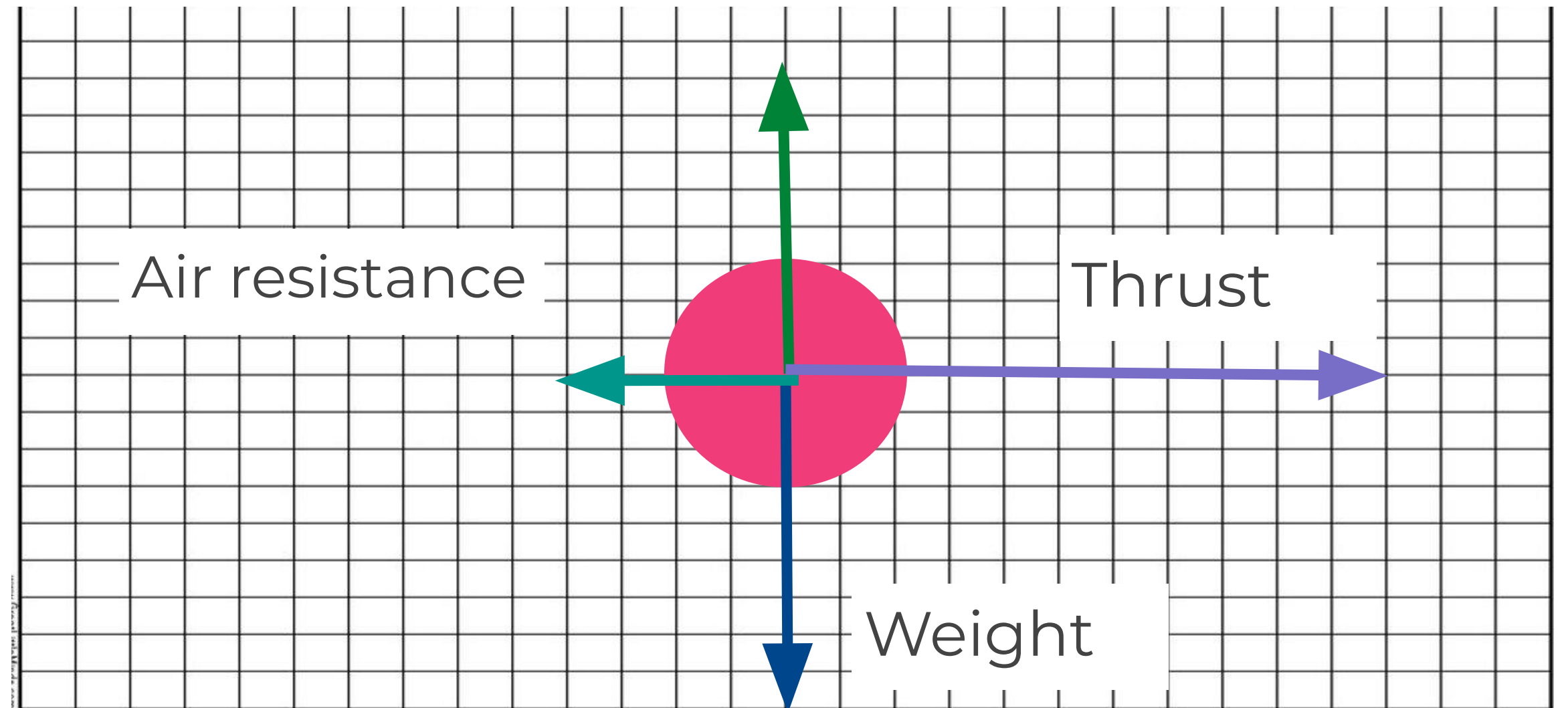
Representing Forces



Credit: public domain

A motorcycle has a thrust of 500 N. The air resistance is 100 N. The weight and the normal contact force are 300 N.

Normal Contact



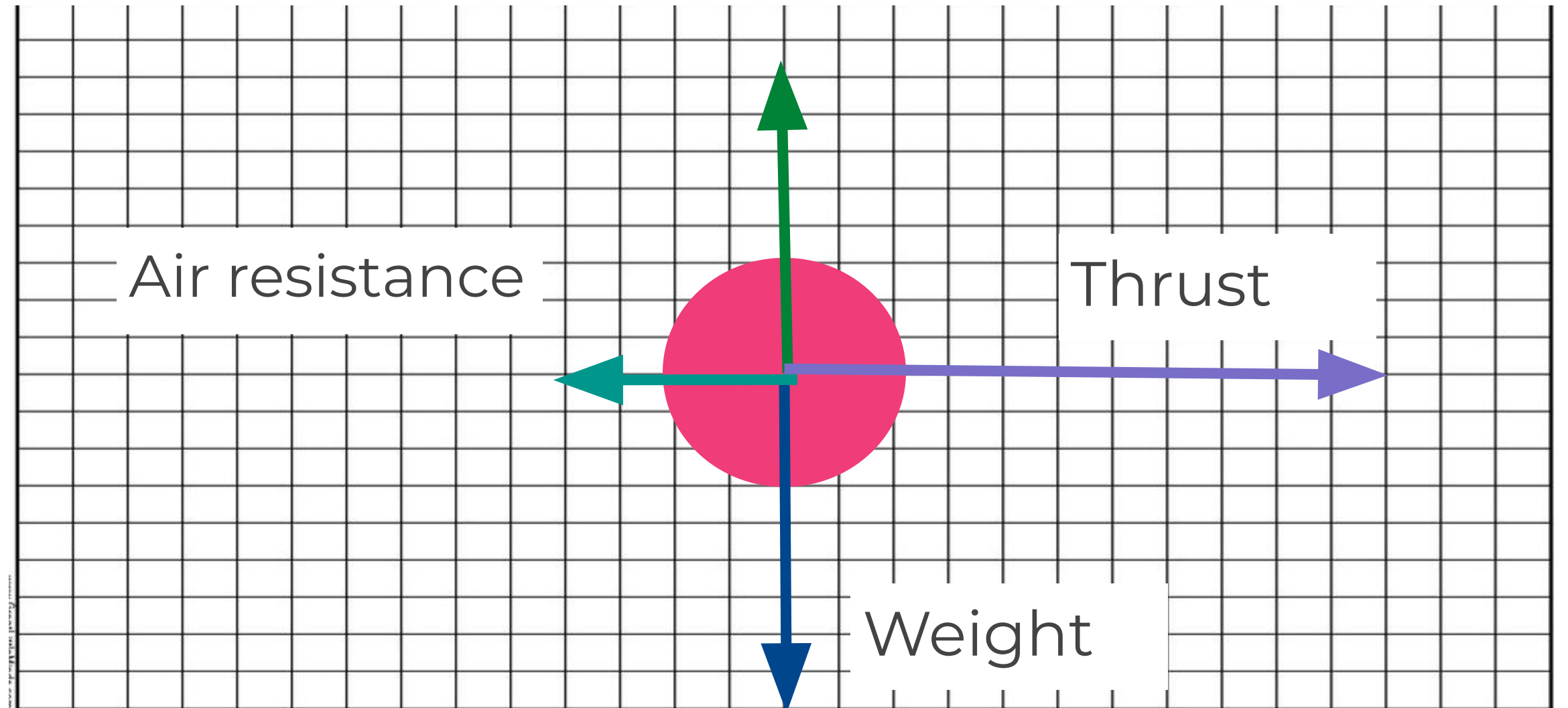
Representing Forces



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Is the motorcycle
balanced?

Normal Contact

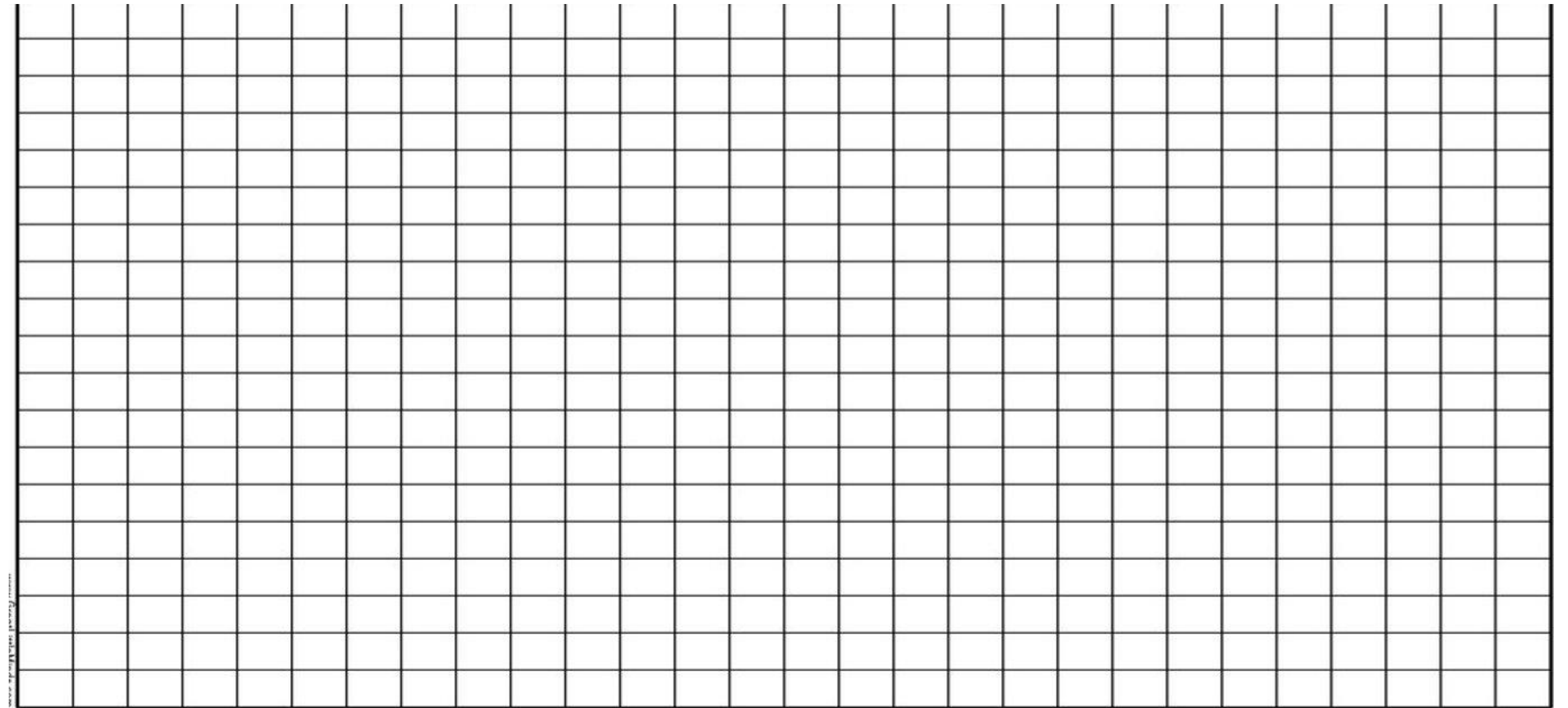


Representing Forces



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Your Turn: There is a weight of 500 N and an air resistance of 300 N on the parachutist. Are the forces balanced?

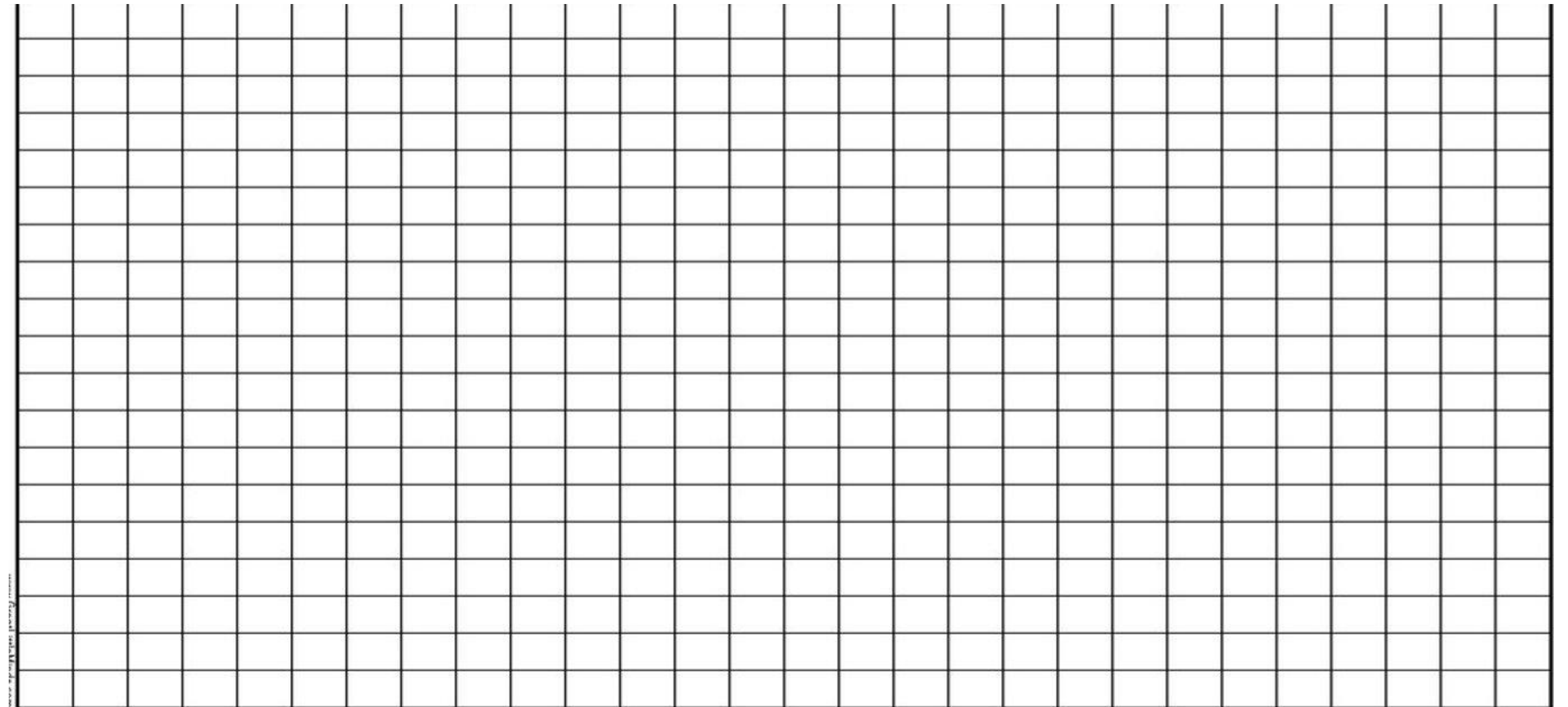


Representing Forces



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Your Turn: The trolley is pushed with a force of 70 N. There is a frictional force of 30 N. The weight and normal contact force are 50 N. Is the trolley balanced?



Well Done!

