

The background features a green-to-blue gradient with various technical diagrams. On the left, there is a large circular scale with numerical markings from 140 to 260. Several smaller circular diagrams with arrows and dashed lines are scattered across the background, suggesting mechanical or engineering concepts.

SIMPLE MACHINES IN REAL LIFE

POE B5 KAI VOGEL

CLAMP – SCREW



Clamp

21.167 threads per inch

Pitch = 1.2mm

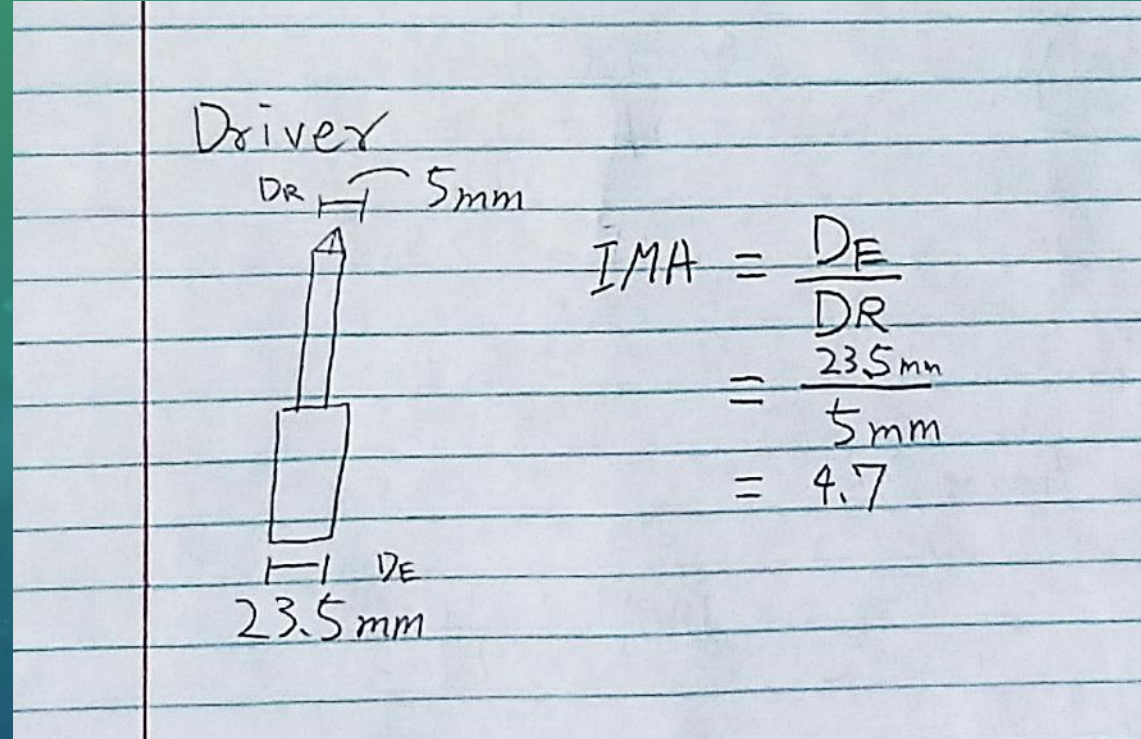
24.5mm

one rotation of effort arm
 $= \pi d$
 $= \pi (24.5 \text{ mm})$
 $= 76.969 \text{ mm}$

IMA = $\frac{\text{rotation of effort arm}}{\text{pitch}}$
 $= \frac{76.969 \text{ mm}}{1.2 \text{ mm}}$
 $= 64.141$

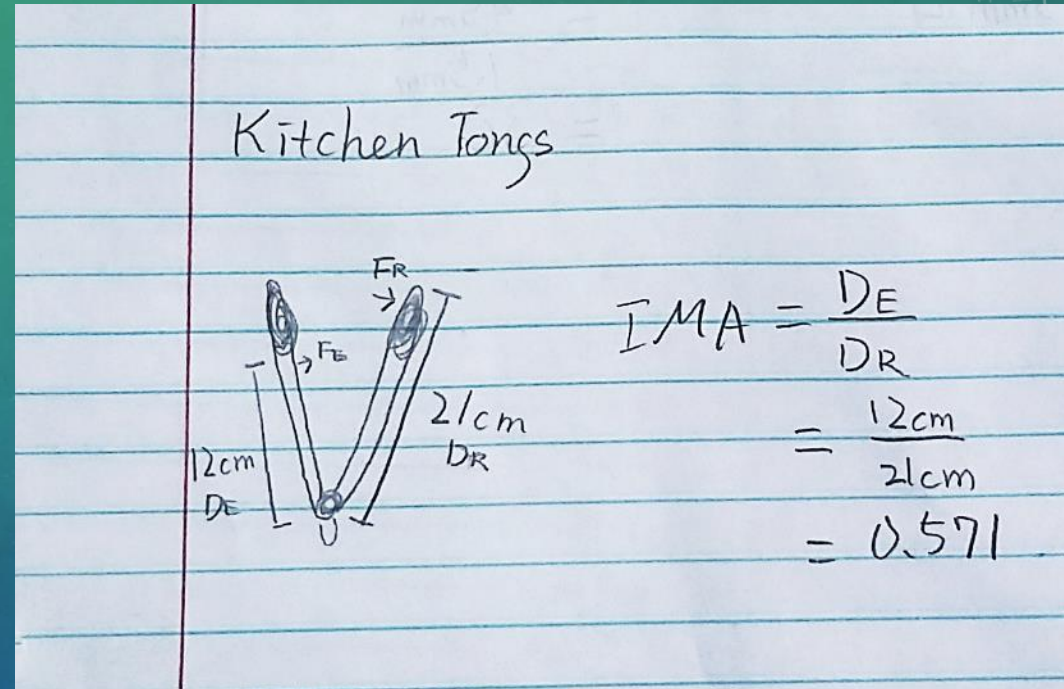
Clamp will make life easier by clamping things together with strong power using the screw. Clamp is using the screw because screw can make strong enough power to clamp things together and make it stable.

DRIVER – WHEEL AND AXEL



Drivers makes life easier by turning screws easier because it is almost impossible to turn screws by your own hand, and so this item is used because it will make 4.7 times less effort to turn the screws.

KITCHEN TONGS – THIRD CLASS LEVER



Kitchen Tongs can make life easier by making less effort distance to control, because the part that forces are applied are closer to fulcrum than resistance, it only needs 0.571 times the distance to grab the item (but more effort force required).

KITCHEN SCISSORS – FIRST AND SECOND CLASS LEVER



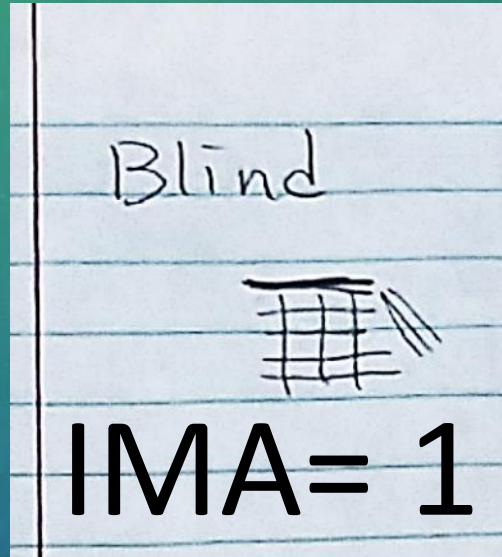
Kitchen Scissors

First class
 $IMA = \frac{DE}{DR}$
 $= \frac{12.5 \text{ cm}}{9 \text{ cm}}$
 $= 1.389$

Second class
 $IMA = \frac{DE}{DR}$
 $= \frac{12.5 \text{ cm}}{4.5 \text{ cm}}$
 $= 2.778$

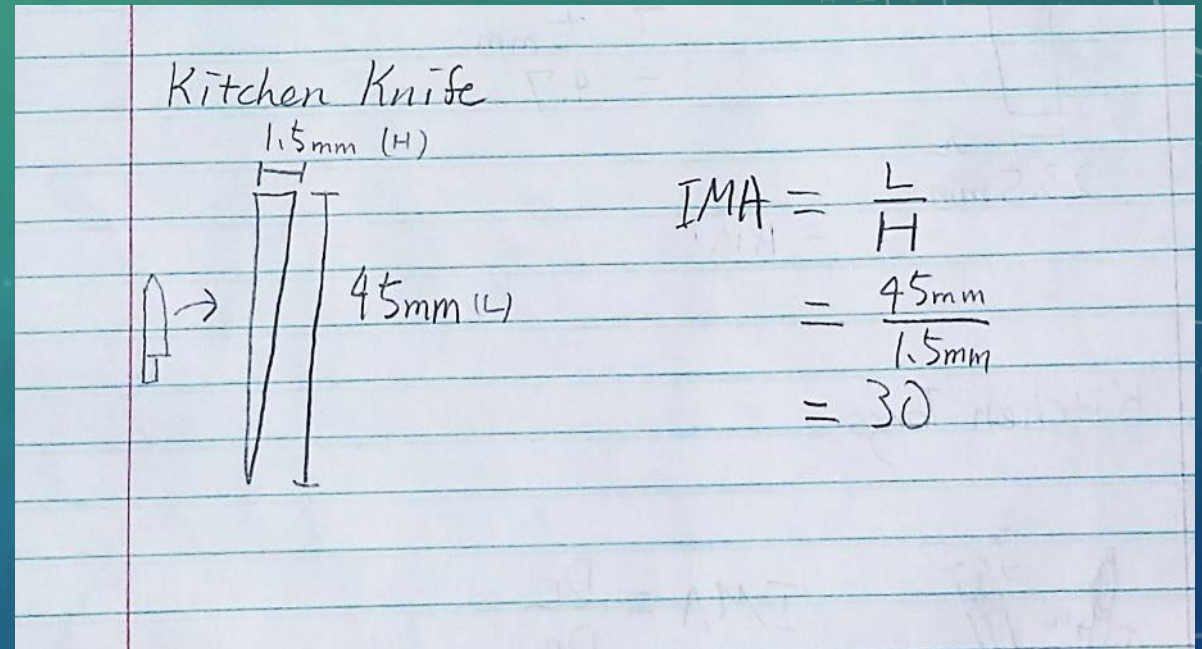
Kitchen Scissors will make life easier by cutting things with the First class levers (also increases powers by 1.389 times). And it will also make life easier by breaking or opening things with the second class levers, because the force applied to the objects will be increased by 2.778 times the force you will apply.

BLIND – FIXED PULLEY



Advantage of the fixed pulley in blinds are that you do not need to pull each pieces together because it is controlled by pulley, even though it is only changing the direction of force (because the IMA is 1), it is making your life easier by making the movement done in one time.

KITCHEN KNIFE – WEDGE



Kitchen Knife can make life easier by cutting things into pieces easier because it has Mechanical advantage of 30, so with out this knife; you need 30 times more effort force to cut things.