Bed leveling / tramming

Adjusting bed leveling screws

It's useful to adjust screws, if bed is tilted or some corners of the bed are off

It can be done manually moving printhead from corner to corner using paper and manually adjusting screws until all 4 corners feel the same. Or can use Klipper built-in helpers for it

Klipper helper macro

[Klipper Documentation](#)

Add this macro to your **printer.cfg**

```
[screws_tilt_adjust]
horizontal_move_z: 4
screw_thread: CCW-M4
speed: 300

screw1: 7,37
screw1_name: front left
screw2: 262,37
screw2_name: front right
screw3: 262,297
screw3_name: rear right
screw4: 7,297
screw4_name: rear left
```

Click "Save and restart" to load in updated config

Then hit **home** or send **G28** (gCode for homing)

Write **SCREWS_TILT_CALCULATE** in commandline to start measuring screws.

You should get output something like this:

```
// 01:20 means 1 full turn and 20 minutes, CW=clockwise, CCW=counter-clockwise
// front left screw (base) : x=7, y=37.0, z=2.48750
// front right screw : x=262.0, y=37.0, z=2.36000 : adjust CW 01:15
// rear right screw : y=262.0, y=297.0, z=2.71500 : adjust CCW 00:50
// read left screw : x=7, y=297.0, z=2.47250 : adjust CW 00:02
```

First screw is used as "base" and others need to be adjusted
Screw on front right need to be turned clockwise one full turn and a quarter
Rear right screw need to be turned counter clockwise 50 minutes, which is about 0.8 turns
Rear left screw need to be turned clockwise 2 minutes, which is about 0.03 turns

Can keep running **G28** (home), **SCREWS_TILT_CALCULATE** and adjust screws until happy with end result

---