

Q1. EIRSAT-1 is Ireland's first satellite, read more about it in this [comic book](#) and answer the questions below.

a. How is EIRSAT-1 different from a traditional satellite?

It is a small cube

b. How big is EIRSAT-1?

10cm x 20cm

c. Name the three modules in EIRSAT-1 and what they aim to study.

GMOD - detect gamma ray bursts

EMOD - test materials for very hot/ cold temperatures

WBC - guiding spacecraft using Earth's magnetic field

d. What programme run by ESA (European Space Agency) helped make EIRSAT-1?

Fly your satellite programme

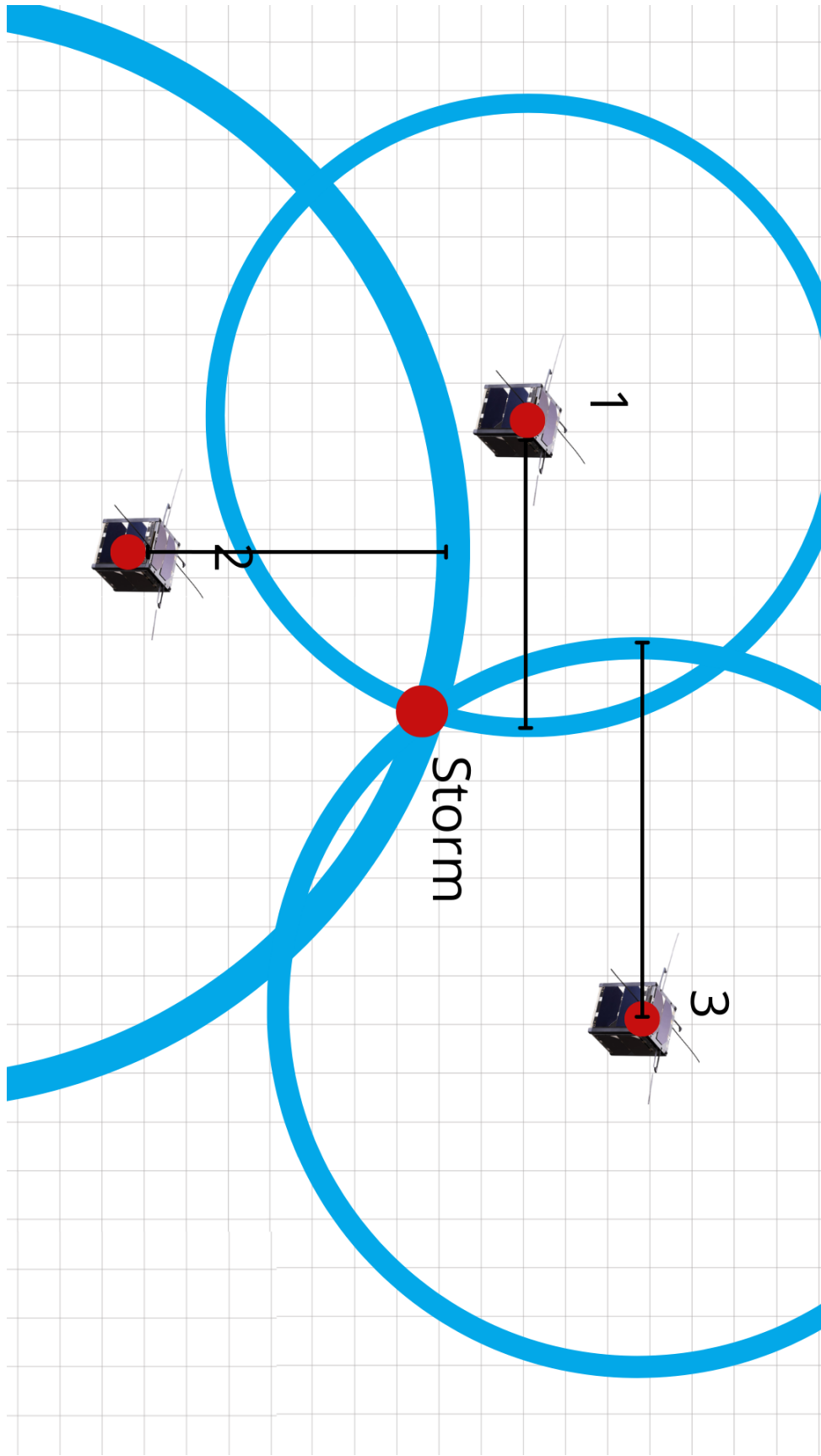
Q2. [SURROUND](#) is a project combining solar physicists in the DIAS Astrophysics Section, Dublin and engineers in the University of Manchester's Space Systems Research Group. It will also use CubeSats, this time six to track solar storms and provide us with early warnings and better space weather forecasts on Earth.

In this example you only require 3 cube sats each of which is gathering a reading from a space weather event, however each will only tell how far away it is from the storm. You must find the location of the storm.

Distance from CubeSat 1 : 6 squares

Distance from CubeSat 2 : 7 squares

Distance from CubeSat 3 : 8 squares



Q3. The Moon is also a satellite, a natural one that orbits Earth. It has an effect here on Earth in the form of tides. The Moon exerts a gravitational force on Earth, which causes it to bulge and it pulls the water in the ocean as it is more responsive to gravity.

Using the data of high tide heights in the month of June 2022 identify what other element is having an effect on the tides. You may want to graph the data and use your knowledge of lunar phases. You can also model the tides' movement.

Date	Height	Date	Height	Date	Height	Date	Height	Date	Height
1	8.9	7	7.3	13	8.8	19	8.4	25	7.7
2	8.5	8	7.2	14	8.9	20	8.2	26	8.3
3	8.2	9	7.1	15	9.0	21	7.9	27	8.8
4	7.9	10	7.5	16	9.2	22	7.5	28	9.2
5	7.5	11	8.1	17	9.1	23	7.3	29	9.5
6	7.4	12	8.4	18	8.6	24	7.4	30	9.4

