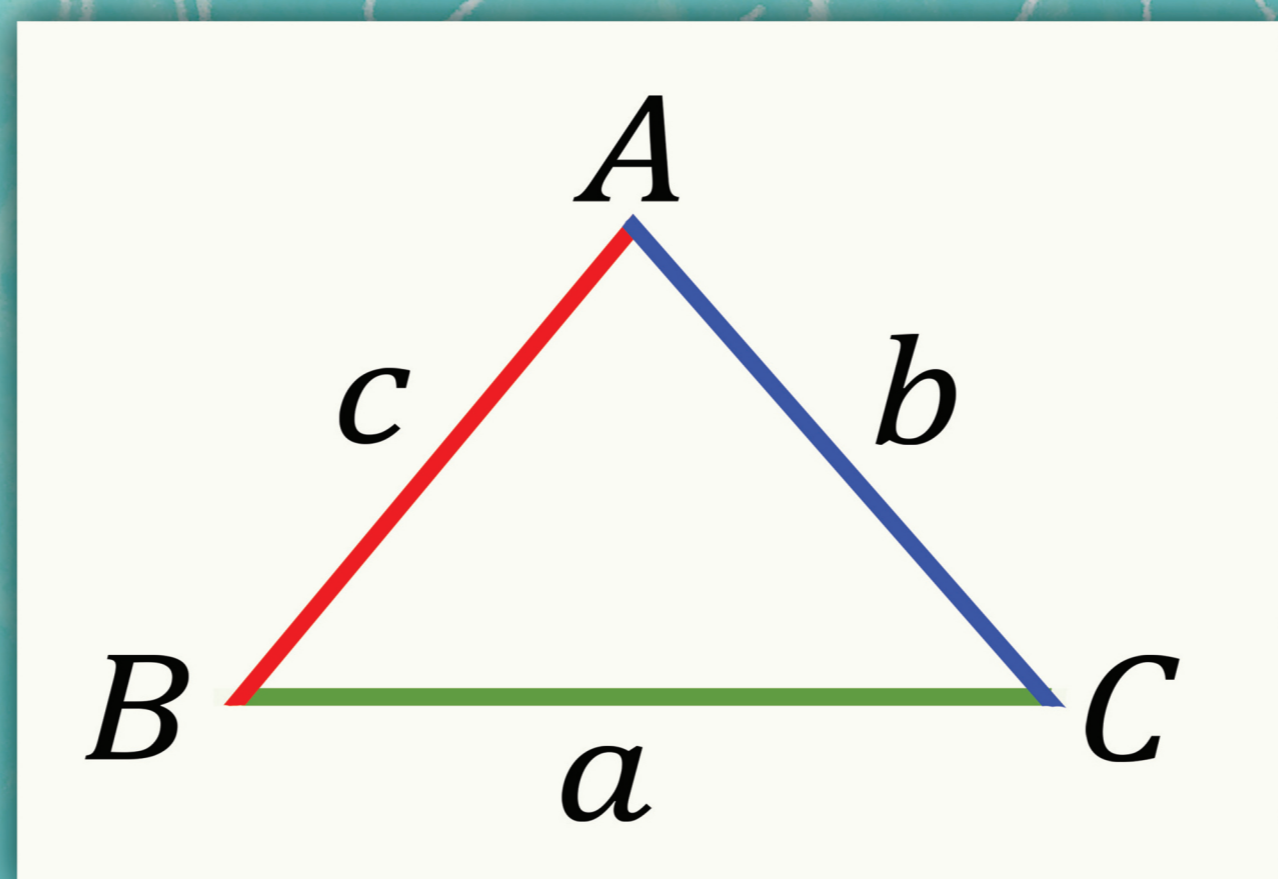


TRIGONOMETRY - Solving triangles



The Sine rule

$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$



Use when given:
AAS
SSA
(opposite 'pairs')

To find an unknown angle/side:

Use the pairs that have the unknown and the 3 given values

The Cosine rule

$$a^2 = b^2 + c^2 - 2bc \cdot \cos A$$



Use when given:
SAS
SSS

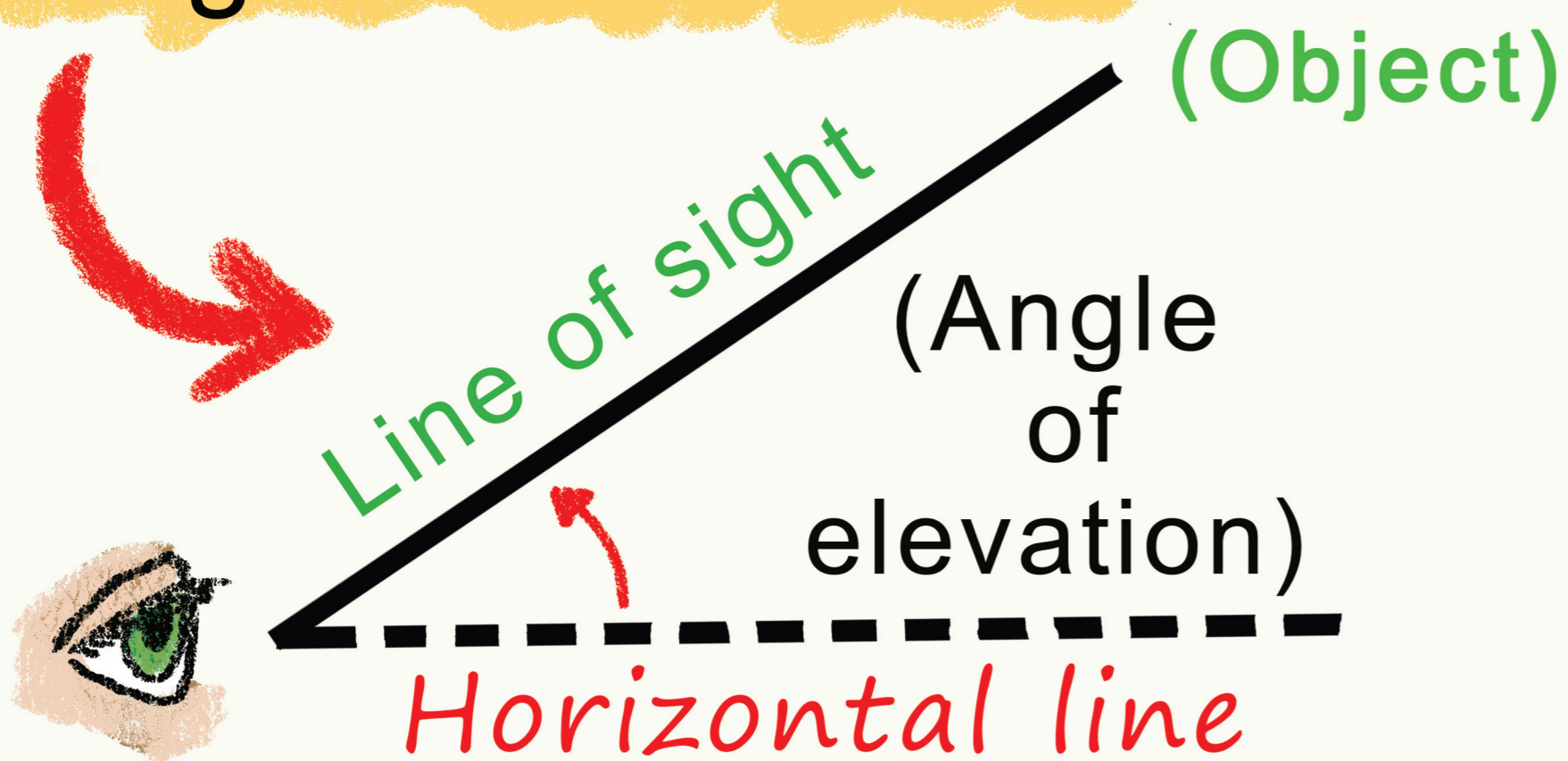
Area rule

$$\text{Area } \Delta = \frac{1}{2} ab \cdot \sin C$$

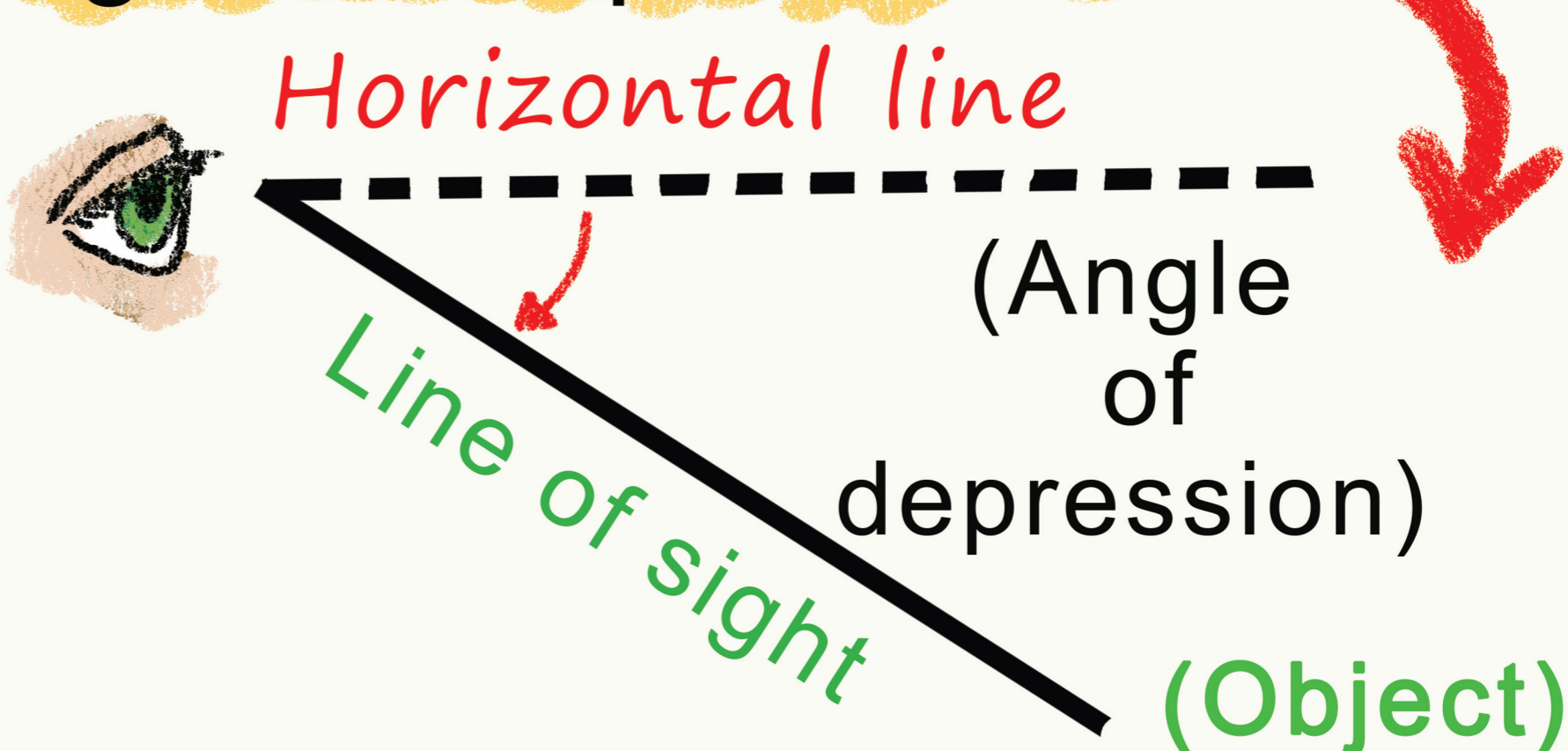


To use:
need SAS
(may need to use
sine/cosine rule to
ensure this)

Angle of elevation



Angle of depression



Tips for 3-D problems:

- Shade the triangle that represents the horizontal plane
- Look for all the triangles in the diagram and fill in the right angles where applicable
- Fill in as much information as possible, (angle sizes and/or side lengths. For example $90^\circ - x$)