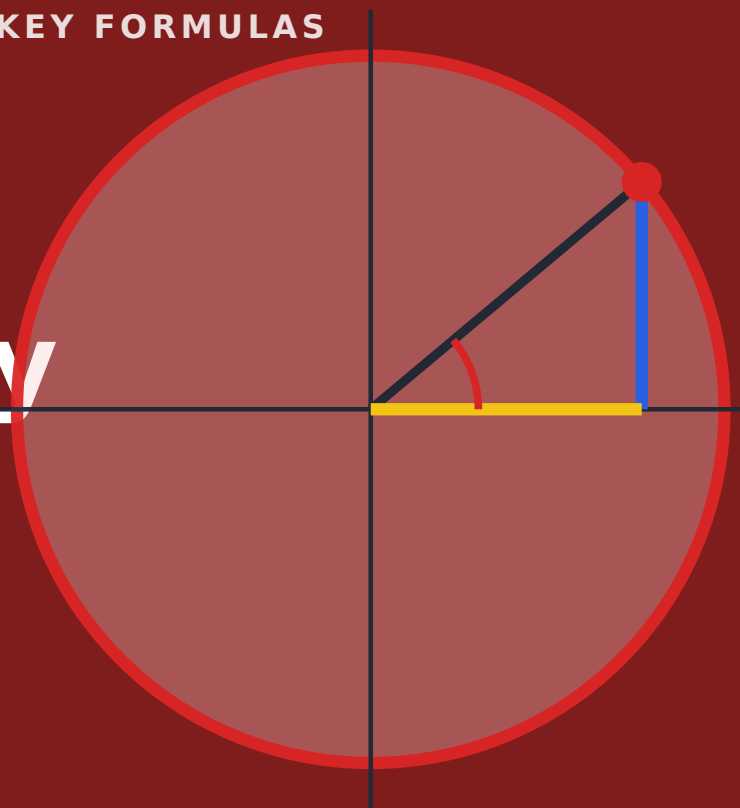


Geometry and trigonometry


Pythagoras

$$a^2 + b^2 = c^2$$

SOHCAHTOA

$$\sin \theta = \frac{\text{opp}}{\text{hyp}}, \quad \cos \theta = \frac{\text{adj}}{\text{hyp}}, \quad \tan \theta = \frac{\text{opp}}{\text{adj}}$$

Sine rule **B**

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

Cosine rule **B**

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

Area of a triangle **B**

$$\frac{1}{2}ab \sin C$$

Exact values

$$\sin 30^\circ = \frac{1}{2}, \quad \cos 60^\circ = \frac{1}{2}, \quad \tan 45^\circ = 1, \quad \sin 60^\circ = \frac{\sqrt{3}}{2}, \\ \sin 45^\circ = \frac{\sqrt{2}}{2}$$

Polygons (n sides)

$$\text{interior sum} = (n - 2) \times 180^\circ, \\ \text{exterior angle (regular)} = \frac{360^\circ}{n}$$

Areas

$$\text{triangle } \frac{1}{2}bh, \quad \text{parallelogram } bh$$

B given in the exam. Learn the rest.