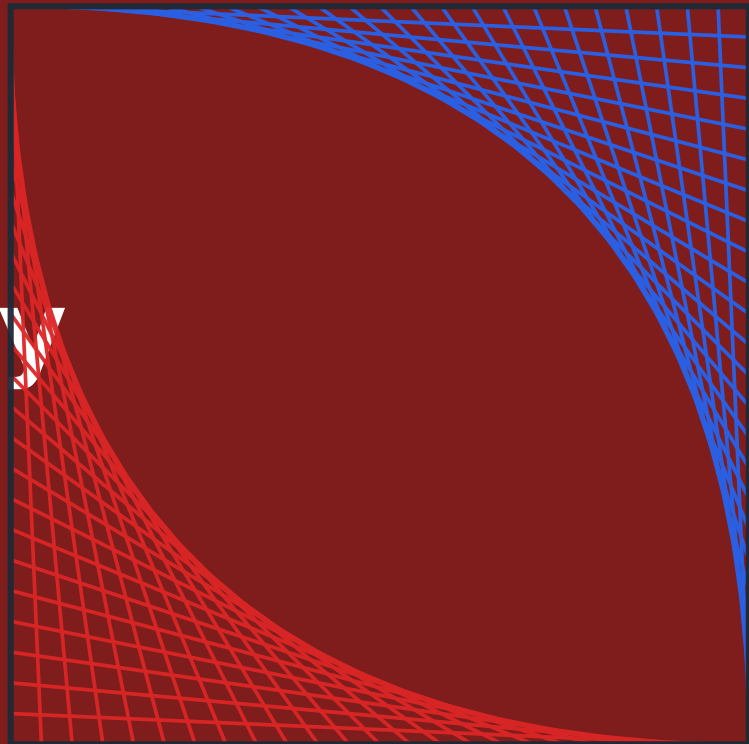


Geometry and trigonometry



3D distance (
 $\Delta x = x_1 - x_2, \dots$)

B

$$d = \sqrt{\Delta x^2 + \Delta y^2 + \Delta z^2}$$

3D midpoint

B

$$\left(\frac{x_1+x_2}{2}, \frac{y_1+y_2}{2}, \frac{z_1+z_2}{2} \right)$$

Pyramid; cone

B

$$V = \frac{1}{3}Ah; \quad V = \frac{1}{3}\pi r^2 h, \quad \text{curved } A = \pi r l$$

Sphere

B

$$V = \frac{4}{3}\pi r^3, \quad A = 4\pi r^2$$

Slant height of a cone

$$l = \sqrt{r^2 + h^2}$$

Sine rule

B

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

Cosine rule

B

$$c^2 = a^2 + b^2 - 2ab \cos C, \quad \cos C = \frac{a^2 + b^2 - c^2}{2ab}$$

Area of a triangle

B

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

B given in the exam. Learn the rest.