

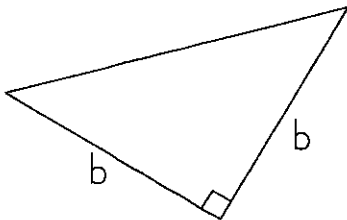
Skill Drill 8

In order to set up many physics problems for solution you should be able to readily translate word descriptions of a geometrical arrangement into a useable sketch. This entails knowing the nomenclature and making simple freehand drawings. These exercises provide practice in these basic skills.

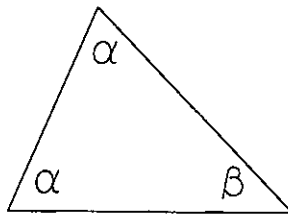
1. Which of following terms apply to each of the plane figures or combination of figures shown below? (More than one term may apply to a given figure.) Put the appropriate letter(s) in the answer spaces provided.

- (a) right triangle
- (b) isosceles triangle
- (c) equilateral triangle
- (d) rectangle

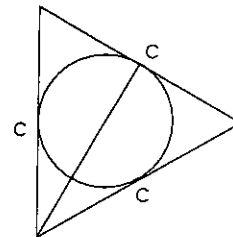
- (e) square
- (f) circle
- (g) ellipse
- (h) tangent line



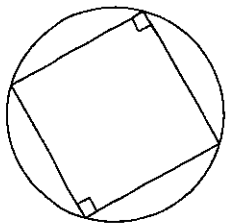
ANSWER _____



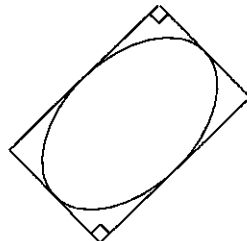
ANSWER _____



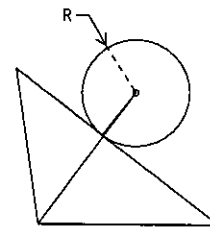
ANSWER _____



ANSWER _____



ANSWER _____



ANSWER _____

2. Beneath each of the following geometrical descriptions make a corresponding freehand sketch.

A right triangle with a vertically oriented hypotenuse

A circle inscribed in a square

Two isosceles triangles with a common base

A sphere tangent to a horizontal plane (seen edge on)

A cube, showing three faces, each with a perpendicular line pointing out from the center of the face

An ellipse, with a tangent line at the end of the major axis

(3) In the space below each of the following descriptions make a freehand sketch which reasonably represents the situation. In most cases an edge-on view is sufficient.

A rectangular box sliding down an inclined plane surface

A horizontal sailboat boom being supported from the top of the mast by a rope

A slug of fluid moving through a cylindrical pipe

Two spheres colliding

Two blocks on either end of a seesaw

Rays of light directed radially outward from the sun

A rectangular chest being pulled up an incline by a rope

A descending yo-yo

A circular ring of wire surrounding a long straight wire located on its axis

A leaning slab of stone being supported by a spherical boulder

A rock falling from the leaning tower

A pendulum moving back and forth in a circular arc