23. A man stands 20 feet from a lamp-post. If his shadow is 4 feet long and he is 6 feet tall, how high is the lamp?

24. Two straight lines AB and CD are each 456 inches long; they cut each other at right angles in the point O, so that AO is 115 inches long and CO 258 inches. Find the length of CB and the number of degrees in the angle CBD.

25. Make a plan of a field $ABCDEF$ from these notes: I walk from A due east to D 200 yards; when I am at G, 50 yards from A, B is due north of me and F is due south, each 60 yards; and when I am at H, 70 yards from D, C is due north of me and E is due south, each 80 yards. Find the area of the field and the distance round it.

26. Draw the pentagon $ABCDE$, having $AB = 30$, $BC = 36$, $CD = 40$, $DE = 32$, $EA = 32$, angle at $B = 100°$, and angle at $C = 94°$. Measure the other angles and find the area of the pentagon. (The figure has no reëntrant angles.)

27. A man in a boat observes the angle of elevation of a cliff to be 40°, and that of a tower 50 feet high standing on the cliff to be 50°. How high is the cliff and how far from its base is the boat?

28. A beacon stands on the summit of a hill. At a point in the plain the angle of elevation of the beacon is 20°, and at a point 70 yards nearer the hill it is 35°. Draw a diagram, and find the height of the beacon above the level of the plain.

29. A schooner wishes to sail due north, but meets with a head wind. It therefore sails 10 miles northeast, then 16 miles west, then northeast; and now finds itself