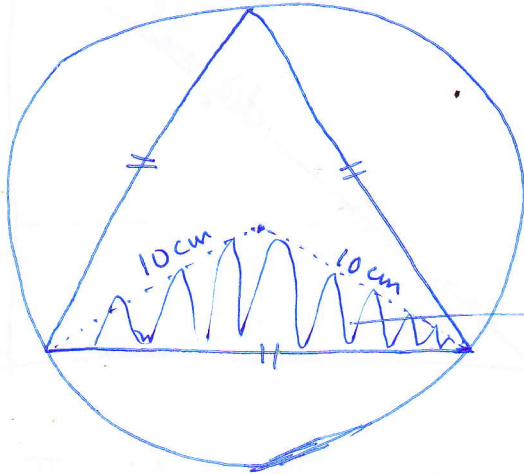


Problems on $\sin$, $\cos$, $\tan$ and Geometry

1) Find the shaded area of this object (circle & a triangle)

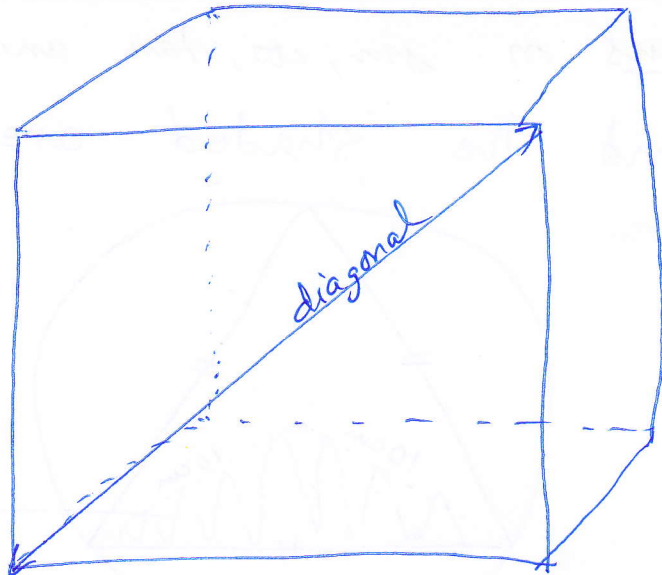
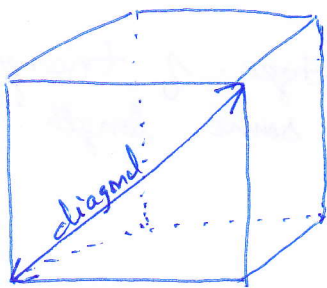


All edges of triangle are same length.

Shaded area

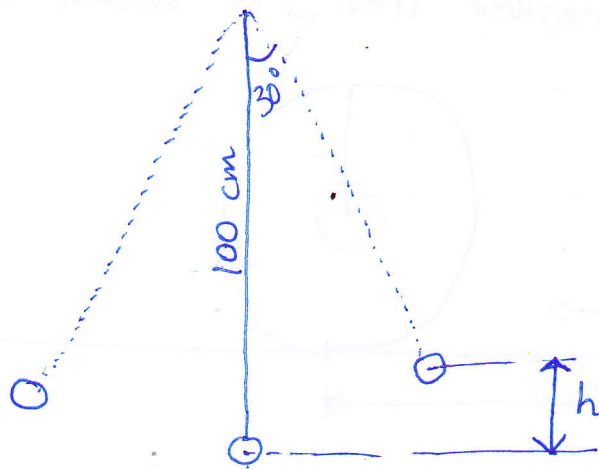
[Hint: use $\sin$, $\cos$, $\tan$ tables, and formulae of areas]

2) Here are two cubes



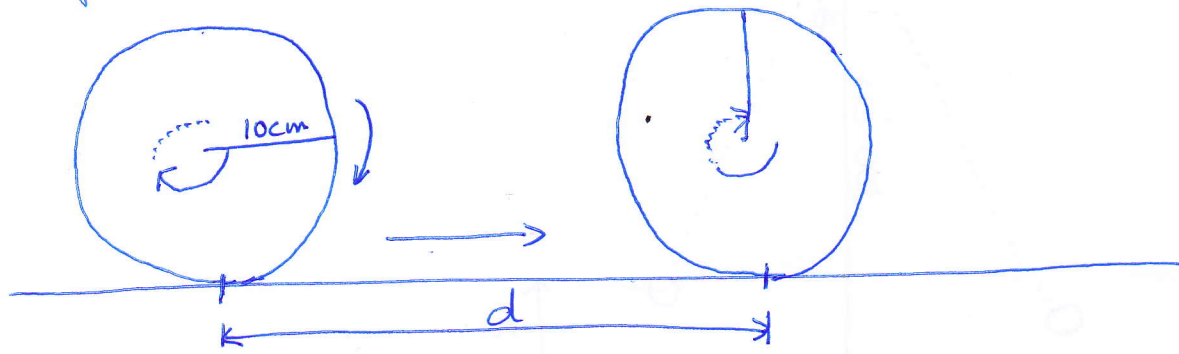
Both are made of same solid material. The weight of first cube is 100 gm and the weight of second cube is 6400 gm. Find the ratio of the diagonal of ~~a~~ face of first cube to the diagonal of a face of the second cube.

3) A pendulum is shown below.



find the height h , for a 30° angle shown above.

4) A ball is shown rolling on a flat surface, and the marked line is shown turning 270°



Find the distance d .

5) A car is going downhill at 60 miles per hour.

If the angle of downhill is steady at 10° for next 3 miles, how much ~~height~~ altitude will the car lose in those 3 miles?

[Hint use sin, cos, tan tables, & speed / distance / time]

6) Find the angles x and y

