

1. Match the graphs.

\_\_\_\_\_ a)  $z^2 + 4 = r^2$

\_\_\_\_\_ b)  $\rho^2 = 4 \csc^2 \phi$

\_\_\_\_\_ c)  $r^2 = 4$

\_\_\_\_\_ d)  $\tan \phi = 1$

\_\_\_\_\_ e)  $z = r$

\_\_\_\_\_ f)  $\rho^2 = \frac{4}{\cos^2 \phi - \sin^2 \phi}$

\_\_\_\_\_ g)  $z = 4 - r^2$

\_\_\_\_\_ h)  $\rho = \cot \phi \csc \phi$

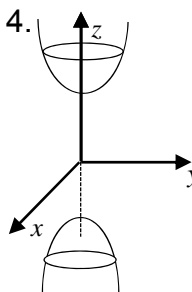
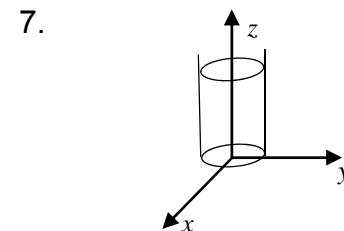
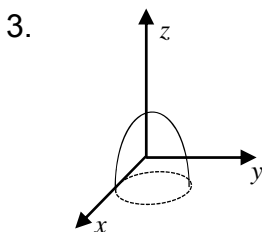
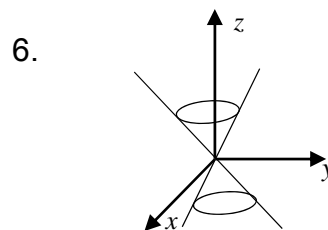
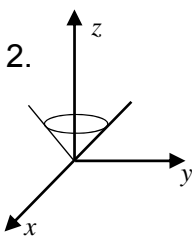
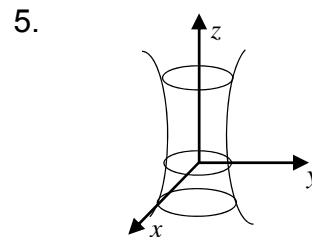
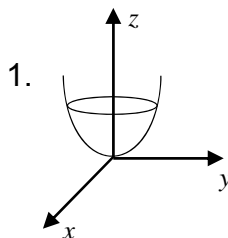
\_\_\_\_\_ i)  $z^2 = r^2$

\_\_\_\_\_ j)  $\rho^2 = \frac{4}{\sin^2 \phi - \cos^2 \phi}$

\_\_\_\_\_ k)  $\tan^2 \phi = 1$

\_\_\_\_\_ l)  $z = r^2$

\_\_\_\_\_ m)  $z^2 - 4 = r^2$



2. Find the equation of the plane which contains the point and line  $P(1,2,1)$ .

$$x = 2 + t$$

$$y = 3 - t$$

$$z = 4t$$