The diagram shows the circle \( x^2 + y^2 = 40 \) with a tangent at the point (2, 6).

Find the gradient of the tangent.

Find the equation of the tangent.

Find the volume of the solid.

The solid is made from a material with density 3.4g/cm³.

Find the mass of the solid.

Shown above is a solid made from a cone and a hemisphere.

\[
f(x) = x^2 + 2 \\
g(x) = 5 - x
\]

Arrange in order: \( fg(3) \), \( gf(3) \), \( ff(3) \), \( gg(3) \).