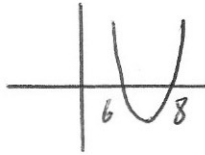


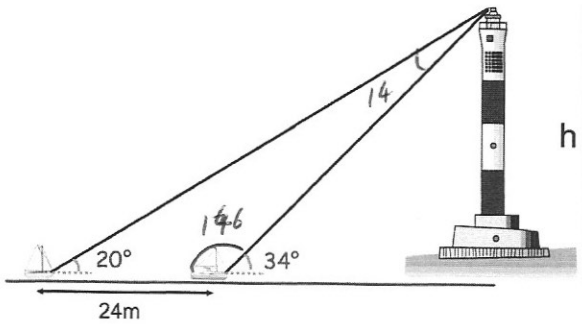


Solve $x^2 - 14x + 48 < 0$

$$(x - 6)(x - 8)$$



$$6 < x < 8$$



Calculate the height of the lighthouse

$$\frac{24}{\sin 14} = \frac{x}{\sin 20} \quad x = 33.9303m$$

$$\sin 34 = \frac{h}{33.93}$$

$$h = 18.97m$$

$$f(x) = \frac{10}{x} + 1 \quad g(5) = 5$$

$$g(x) = 2x - 5 \quad f(5) = 3$$

Dylan says $fg(5) = gf(5)$ $fg(5) = 3$

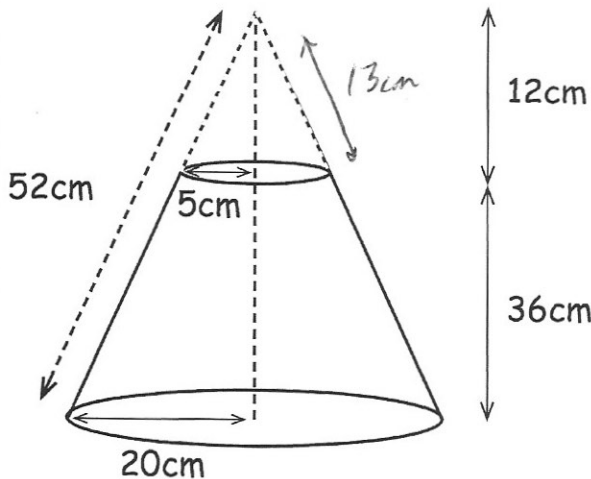
Is Dylan correct?

$$f(5) = 3$$

$$g(3) = 1$$

$$gf(5) = 1$$

No



Work out the surface area of the frustum

$$(\pi \times 5^2) + (\pi \times 20^2) + (\pi \times 20 \times 52)$$

$$- (\pi \times 5 \times 13) =$$

$$4398.2297 \text{ cm}^2$$

Work out the volume of the frustum

$$\frac{1}{3} \pi \times 20^2 \times 48 - \left(\frac{1}{3} \pi \times 5^2 \times 12 \right)$$

$$19792.03 \text{ cm}^3$$