Name: _____ 5-a-day Higher Plus

7th June

Corbettmaths

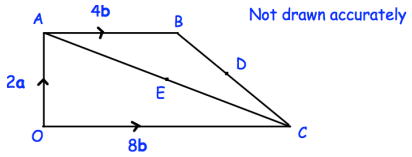
On 1st March 2001, the ratio of Freddie's age to his mother's age was 1:11
On 1st March 2018, the ratio of Freddie's age to his mother's age was 2:5

Write the ratio of Freddie's age to his mother's age on 1st March 2030

$\overrightarrow{OA} = 2\mathbf{a}$ $\overrightarrow{AB} = 4\mathbf{b}$ and $\overrightarrow{OC} = 8\mathbf{b}$

Point D is the midpoint of BC.
Point E is the midpoint of AC.

Show $\overrightarrow{ED}$ and $\overrightarrow{OC}$ are parallel



Express $\dfrac{\sqrt{3}+2}{2-\sqrt{3}}$ in the form

$a + b\sqrt{3}$ where a and b are integers.

The line *l* is a tangent to the circle

$x^2 + y^2 = 104$ at the point P.
P is the point (10, 2)

Work out the equation of the line *l*

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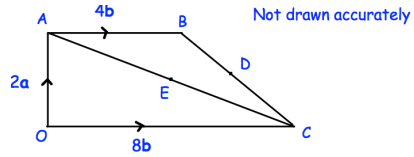

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