

7th June



Corbettmaths

On 1st March 2001, the ratio of Freddie's age to his mother's age was 1:11 3233
 On 1st March 2018, the ratio of Freddie's age to his mother's age was 2:5 20250

32262

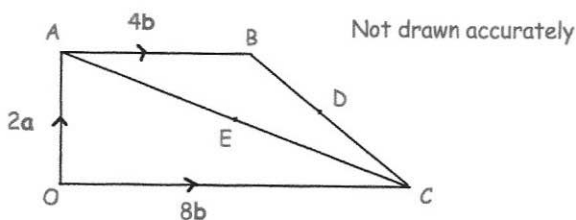
Write the ratio of Freddie's age to his mother's age on 1st March 2030

16:31

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

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

Show \vec{ED} and \vec{OC} are parallel



$\vec{OC} = 8b$

$\vec{ED} = \vec{EA} + \vec{AB} + \vec{BD}$

$\vec{EA} = a - 4b$

$\vec{AB} = 4b$

$\vec{BD} = \frac{1}{2}(-4b - 2a + 8b)$
 $= 2b - a$

$\vec{ED} = 2b$

$\therefore \vec{OC} = 4\vec{ED}$ so parallel.

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

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

$7 + 4\sqrt{3}$

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

gradient of OP = $\frac{1}{5}$

gradient of l = -5

$y = -5x + c$

$2 = -50 + c$

$c = 52$

$y = -5x + 52$