



Factorise

$$2x^2 + x - 1$$

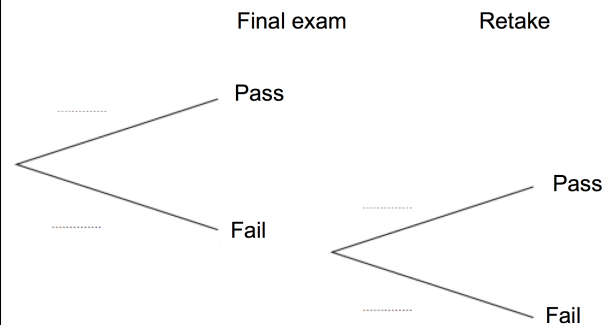
A college course consists of 8 weeks of teaching with a final exam at the end of the course

If a student fails the final exam, they have one opportunity to retake the exam.

The probability of a student passing the final exam is $\frac{7}{8}$

The probability of a student passing the retake is $\frac{2}{3}$

Complete the tree diagram



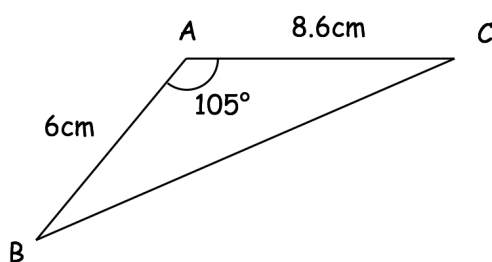
If a student passes the final exam or retake, they receive a certificate.

Work out the probability that a student receives a certificate.

The line L passes through the points $(-4, 0)$ and $(2, -2)$

The line M passes through the points $(3, 8)$ and $(2, 2)$

Are the lines L and M perpendicular?
Show your workings



Find the area of ABC.