4th November

A circle has equation

\[ x^2 + y^2 = \frac{1}{9} \]

Write down the length of its radius

There are \( x \) apples in a crate. 4 of the apples are bad.

Fiona chooses two apples from the crate, without replacement. The probability she selects two bad apples is \( \frac{1}{11} \)

Prove DC is parallel to AB

\[
\vec{EC} = \frac{1}{4} \vec{CB} \\
\vec{DE} = \frac{1}{4} a
\]

Find the vector \( \vec{AB} \)

Find \( x \), the number of apples in the crate.

Prove

\[ x^2 - x - 132 = 0 \]