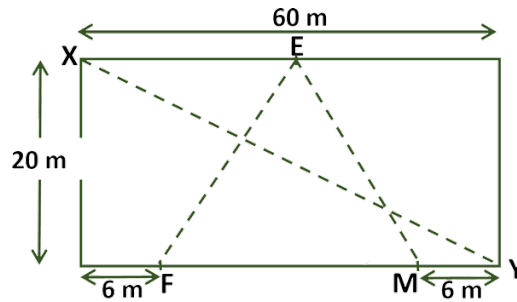


# Tracking sports professionals

This task is about using the Pythagoras theorem to work out lengths of diagonals.



The Black Ferns are training using a rectangle that is 60 m long by 20 m wide.

- a) Ruby Tui crosses from point X to point Y.  
Use Pythagoras' theorem to work out the length of the diagonal XY.  
Show your working.

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$XY = \underline{\hspace{2cm}} \text{ m}$

- b) She then crosses from point F to point E, and then to point M.  
Point E is half way along the other side, and points F and M are 6 m in from each side.  
Work out how far she travels between these points.  
Show your working.

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$FE + EM = \underline{\hspace{2cm}} \text{ m}$