PYTHAGORAS THEOREM

I have explored the relationships that exist between the sides, or sides and angles, in right-angled triangles and can select and use an appropriate strategy to solve related problems, interpreting my answer for the context.

Pupils should be able to:

- Calculate squares and square roots using a calculator
- Calculate the length of the hypotenuse using Pythagoras' theorem
- Calculate a shorter length using Pythagoras' Theorem
- Solve problems using Pythagoras' Theorem

PUPILS SHOULD COMPLETE THE FOLLOWING EXERCISE AND ASSESS THEIR PROGRESS BY TICKING ONE OF THE OPTIONS FOR EACH TOPIC IN THE TABLE BELOW

|	DEVELOPING	CONSOLIDATING	SECURE
Squares and square roots Question 1			
Calculating the Hypotenuse Question 2			
Shorter sides Question 3			
Problem solving Questions 4			

mymaths lessons: library/number/powers and roots/ squares and cubes
                    library/Shape/Pythagoras/Pythagoras Theorem
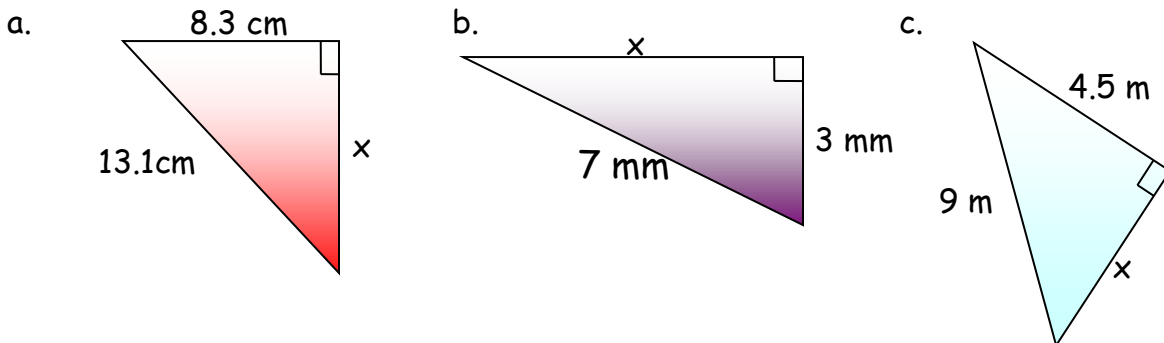
1. Calculate   a) 4^2 b) 13^2 c) 135^2 d) 3.2^2
                  e) $\sqrt{16}$ f) $\sqrt{49}$ g) $\sqrt{20}$ h) $\sqrt{73}$
                  (round your answers to 1 decimal place)

2. For each diagram find the size of the side marked x.
   (round your answers correct to 1 decimal place where necessary)

a.   b.   c.

5 m   x   2.7
      x   8 cm   x

4 m   7 cm   2.5 m
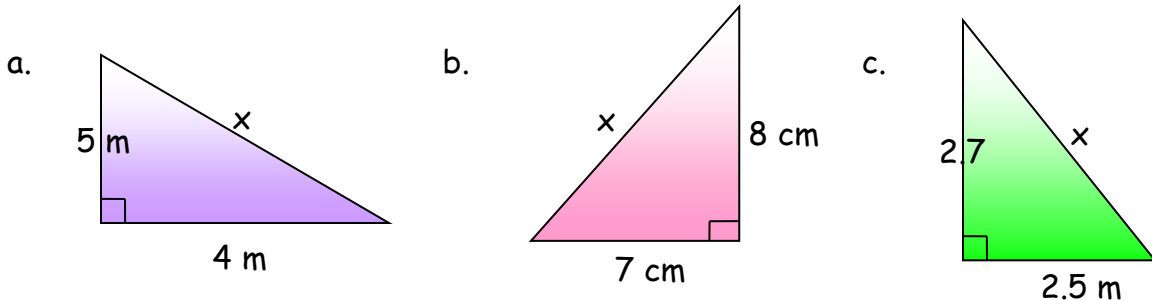
3. For each diagram find the size of the side marked x.
   Give your answers correct to 1 decimal place.

a.   8.3 cm   b.   x   c.
                                                               4.5 m
13.1cm   x   7 mm   3 mm   9 m
                                                                    x

4. A farmer has a field that measures 75m by 110 metres. He wants to
    enclose this field with new electric fencing, and at the same time, divide the
    field into 4 equal sections to hold four different farm animals.

    Diagram of the proposed changes

    ══════   New electric fence

    sheep

    pigs   geese   75 m

    goats

    110 m
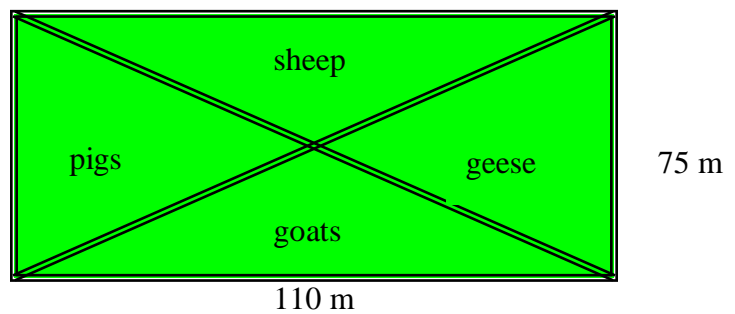
    Calculate how many whole metres of fencing that the farmer will need to buy?