*Please note that the course was slightly different last year and the following assignment was marked against the criteria outlined below.*

### Part 1: Problem Set

Question 1

Find the missing side lengths of these triangles. Show your working. Round your answers to one decimal place, and remember to write in the units.

17.8m

**c**

**b**

1m

80cm

14m

15mm

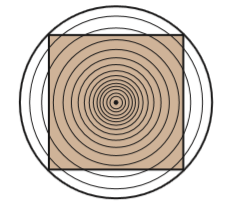
**a**

28mm

Question 2

Ian is at the seaside. He kayaks away from the shore until he is 100m away. He realises that he has drifted 20m away from where he started, in the direction parallel to the shore.

1. Draw and label a triangle to model this situation.
2. Work out how far Ian has actually kayaked, to the nearest metre.



Question 3

A log has diameter 30cm. What is the side length of the biggest square section beam that can be cut from the log to the nearest cm? (Hint: Divide the square into triangles.)

Question 4

If you double the length of the legs of a triangle, what happens to the length of the hypotenuse? Give examples to show this. Can you prove it using algebra?

Part 1: Problem Set

Question 1:

17.8m

14m

A=22.6

80cm 1m

B=60

C=31.7

15mm

28mm

Question 2:

C=101.9m 20m

Hypotenuse to the nearest metre = 102m

100m

Question 3:

A log has a diameter 30cm. What is the side length of the biggest square section beam that can be cut from the log to the nearest cm? (Hint: Divide the square into triangles.)

Hypotenuse – 30cm

Legs – 15cm

Answer – 20cm

(All of this is a try because I wasn’t sure how to do this!)

Question 4:

If you double the length of the legs of a triangle, what happens to the length of the hypotenuse? Give examples to show this. Can you prove it using algebra?

2x: Example:

X= 5, what will the hypotenuse be?

2 times 5(which is x) would equal = 10

Thank you for marking my work hopefully I get a good score☺!