

Name:	Time taken:	Mark:
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Assignment sheet – Y8.1.04

Instructions

Complete the questions below in the spaces provided.

Remember to show FULL WORKING – the best mathematician isn't the one who gives you the answer the quickest but is the one who proves that their answer is correct.

Remember to complete the self-assessment and to bring your answers to our next lesson.

Remember to review your notes prior to completing the assignment.

Materials required: Calculators **are** permitted

Time allocation: 45 minutes

The assignment

1. By using prime factor decompositions, calculate the HCF and LCM of 600 and 225.

HCF = LCM =

[3]

2. Two numbers, A and B , are written as $A = 2^7 \times 3^2 \times 7^6$ and $B = 2^2 \times 3^6 \times 5^4$.
Leaving your answers in index form, find:

a. $A \times 2$

.....
[1]

b. $A \times 4$

.....
[2]

c. \sqrt{B}

.....
[2]

d. B^3

.....
[2]

- e. The smallest integer that A must be multiplied by to make a squared number

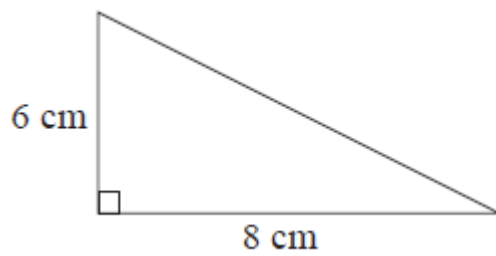
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[2]

3. Define Pythagoras's theorem.

.....
.....
[2]

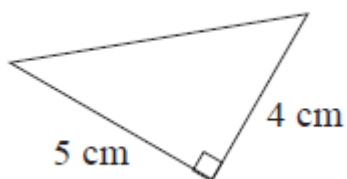
4. In each of the following questions, find the length of the unknown side, giving your answer to three decimal places where appropriate.

a.



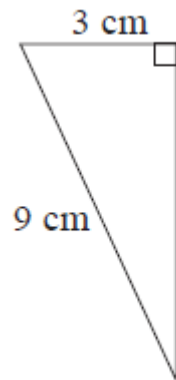
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[3]

b.



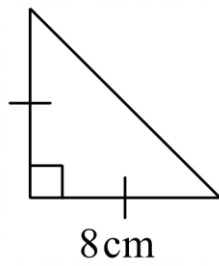
.....
[3]

c.



.....
[3]

d.



.....
[3]

5. Complete the table below:

	Rounded to two significant figures	Rounded to three significant figures
524500		
210.9		
0.02030405		
9.999		

[8]

6. A triangle has sides of length 6cm, 7cm and 12cm. Prove that the largest angle in the triangle is obtuse.

[3]

7. Rohan says that a triangle has sides of length 4cm, 8cm and 20cm. Explain why Rohan is incorrect.

.....

.....

.....

[2]

8. A rectangle has sides of length 5cm and 7cm. Find the length of the diagonal of the rectangle, giving your answer to one decimal place.

.....
[3]

9. I have a ladder which is 7m long. I want to reach a window on the side of my house which is 5m high. If the top of the ladder just reaches the window ledge, how far away from the house should the foot of the ladder be (hint: draw a picture)?

.....
[3]

10. A ship leaves a port and sails 450km North and then 125km East. It then sails back to the port in a straight line. Find the total distance that the ship sails, giving your answer to three significant figures.

.....
[4]

END OF ASSIGNMENT

TOTAL – 50 marks

Self-assessment

Tick the appropriate boxes in the table below

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I was able to complete this assignment easily					
I put in a lot of effort in completing this assignment					
I am comfortable with the material in this unit					