**PURE MATHEMATICS 1 PAPER 1v3 WINTER 2021**

**TIME ALLOWED: 1 hour**

**ANSWER ALL THE QUESTIONS**

TOTAL MARKS = 40

**INSTRUCTIONS**: You can use a calculator.

You must show your method.

Answer all the questions.

You must make sure the work you present is yours and is not copied from somewhere else.

**Formulae**

**Questions**

1. Calculate  [2 marks]

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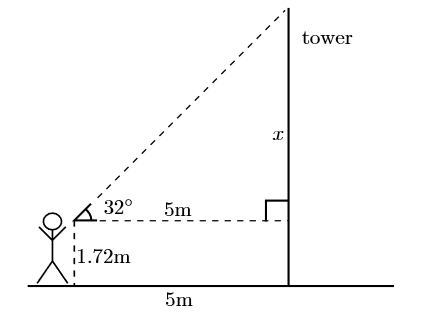
1. A visitor to this country buys a bag costing £47.00 including VAT of 6%. How much VAT can be reclaimed? [4 marks]
2. Find the value of  [2 marks]
3. Simplify and leave your answer in the form of

[2 marks]

1. Write the equation using positive index. [3 marks]
2. Expand [2 marks]
3. Expand the expression [3 marks]
4. Rearrange the equation to make n the subject. [3 marks]
5. Factorize [4 marks]
6. A triangle ABC has sides AB = 3, BC = 5, AC = 10. What kind of triangle is this?

[3 marks]

1. In the diagram below, find the height of the tower. [4 marks]



1. Convert [2 marks]
   1. 35 degrees to radian
   2. 1.8 radian to degrees
2. Determine all the angles between and whose tangent is 0.9004. [4 marks]
3. Find the length of side BC in the figure below. [2 marks]

