**PURE MATHEMATICS 1 PAPER 1v2 WINTER 2021**

**TIME ALLOWED: 1 hour**

**ANSWER ALL THE QUESTIONS**

TOTAL MARKS = 41

**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  [3 marks]

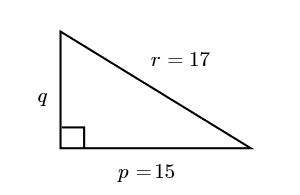
.

1. A visitor to this country buys a bag costing £35.00 including VAT of 8%. How much VAT can be reclaimed? [4 marks]
2. Find the value of  [2 marks]
3. Rationalise [2 marks]
4. Write the equation using positive index. [2 marks]
5. Expand [2 marks]
6. Expand the expression [3 marks]
7. Solve the quadratic equation for x;

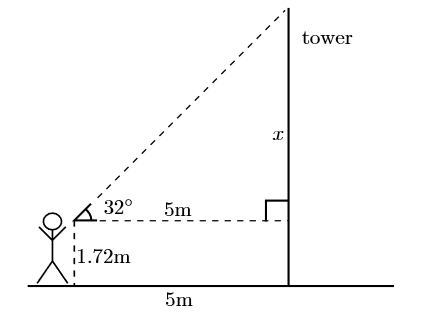
[3 marks]

*(Hint: use the quadratic formular)*

1. Solve the simultaneous equation [4 marks]
2. Find the value of q in the figure below [2 marks]



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



1. Convert [2 marks]
   1. 70 degrees to radian
   2. 1.3 radian to degrees
2. Determine all the angles between and whose cosine is (-0.8829). [4 marks]
3. Factorise the expressions [4 marks]