**Topic: Non-Calculator Trigonometry**

Time: 45 mins Marks: /45 marks

**No calculator allowed**



**Question One: [2, 2, 2: 6 marks]**

Solve the following:

a)

b)

c)

**Question Two: [3, 3: 6 marks]**

Calculate the length of the unknown side.

a)

b)



**Question Three: [2, 2: 4 marks]**

Consider the following triangle.

a) Determine the value of .

b) If the lengths of the sides of the triangle were all doubled in size, how would this effect the value of ?

**Question Four: [3, 5: 8 marks]**

Consider triangle *PQR* where and side *PQ* has length 32 m.

a) Determine the length of side *RQ*.

b) T, hence or otherwise, determine the area of the triangle. Explain your answer.

**Question Five: [4, 5: 9 marks]**

a) In triangle *ABC*, the length of side *AB* is 6cm, and

Determine the exact length of side *AC*.

b) In triangle *MNO*, the length of side *MN* is 4cm, the length of side MO is 6cm and

Determine the exact length of side NO.

**Question Six: [4 marks]**

In triangle *DEF*,, and

Given that the area of the triangle is , determine the value of

**Question Seven: [4 marks]**

Harry was 15m due south of Zayn. If Liam is due east of Harry and on a bearing of 158° from Zayne, calculate the distance between Harry and Liam. You may wish to use the approximation of

**Question Eight: [4 marks]**

Consider the following diagram



Show that

**Topic: Non-Calculator Trigonometry SOLUTIONS**

Time: 45 mins Marks: /45 marks

**No calculator allowed**



**Question One: [2, 2, 2: 6 marks]**

Solve the following:

a)

b)

c)

**Question Two: [3, 3: 6 marks]**

Calculate the length of the unknown side.

a)



b)





**Question Three: [2, 2: 4 marks]**

Consider the following triangle.

a) Determine the value of .

b) If the lengths of the sides of the triangle were all doubled in size, how would this effect the value of ? Explain your answer.

 Not at all, similar triangles have the same size angles.

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a) Determine the length of side *RQ*.

m

b) T, hence or otherwise, determine the area of the triangle.



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Consider the following diagram



Show that







