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| **Topic 3: Geometry and Trigonometry** | **Law of Sines and Cosines** | | |
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| 1. A ship leaves port Q on a bearing of 045°. It sails a distance of 30 miles to point R. At R, the ship changes direction to a bearing of 115°. It sails a distance of 50 miles to reach point S. A second ship leaves port Q and sails directly to S.    1. Find the distance ship 2 will travel    2. Find the bearing of the course taken by the second ship | | | (4 marks)  (3 marks) |
| Mark scheme:   1. \*\* Drawing a picture will be helpful \*\* Finding angle QRS = 70°  Using the Cosine Rule  Correct substitution into the Cosine Rule   km 2. Use of the Sine Rule     OR  Use of the Cosine Rule | | (A1)  (M1)  (A1)      (A1)  (M1)  (A1)  (A1)  (M1)  (A1)  (A1) | |