

(C2-4.2a) Name:

## **Homework Questions 2 – Perpendicular Bisectors from Chords**

1. The Line PQ is a diameter of a circle centre C where P(1,2) and Q(3,4). The line T passes through C and is perpendicular to PQ.

- Find the midpoint of PQ
- Find the gradient of PQ
- Hence find the equation of T

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| <ol style="list-style-type: none"><li>(2, 3)</li><li><math>m = 1</math></li><li><math>x + y - 5 = 0</math></li></ol> |
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2. The Line RS is a diameter of a circle centre P where R(-1,-2) and S(6,-5). The Line L passes through P and is perpendicular to RS, find the equations of L in the form  $ax+by+c=0$

$28x - 12y - 112 = 0 \text{ or}$ $7x - 3y - 28 = 0$
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3. The Line AB is a chord on the circle with centre (3,-2). If A(6,-2) and B(3,1). The line L is perpendicular to AB and bisects it. Find the equation of L give your answer in the form  $y=mx+c$

$$y = x - 5$$

4. The points R(-2,5) S(2,1) T(-6,1) lie on the circumference of a circle. Find the equation of RS and RT and hence find the coordinate of the centre of the circle

$$(-2, 1)$$