

Secondary 4 Mathematics

2st Term Pre-test

Time allowed: 1 hour

Total Mark: 52

Mark: _____

Name: _____

Instructions:

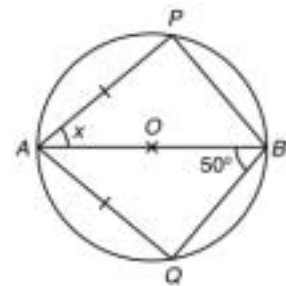
1. Attempt ALL questions. Write your answers in the spaces provided in this Question/Answer paper.
 2. Unless otherwise specified, all workings must be clearly shown.
 3. Unless otherwise specified, numerical answers must either be exact or correct to 3 significant figures.
 4. The diagrams in this paper are not necessarily drawn to scale.
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1. Find the value of $\cos 135^\circ \sin 315^\circ + \sin 210^\circ$ without using a calculator, leaving the answer in surd form.

(3 marks)

2. In the figure, $AP = AQ$, AB is a diameter of the circle and $\angle QBA = 50^\circ$.

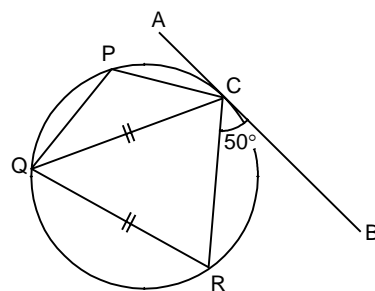
- (a) Write down a pair of congruent triangles.
- (b) Find x .



(4 marks)

3. In the figure, AB touches the circle at C. If $QC = QR$ and $\angle BCR = 50^\circ$, find $\angle QPC$.

(5 marks)



4. ABC is a triangle with $AB = 8$ cm, $AC = 15$ cm and $BC = 14$ cm.

(a) Find the area of $\triangle ABC$.

(b) D is a point on AC such that $BD \perp AC$. Find BD and CD.

(6 marks)

