Q4.

* The diagram shows a triangle *DEF* inside a rectangle *ABCD*.

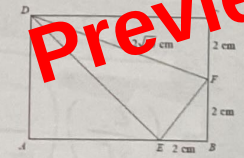

Diagram NOT accurately drawn

Show that the area of triangle *DEF* is 8 cm^2.
You must show all your working.

(Total for question = 4 marks)

Q5.

S is a geometric sequence.

(a) Given that $(\sqrt{x}-1)$, 1 and $(\sqrt{x}+1)$ are the first three terms of S, find the value of x.
You must show all your working.

(3)

(b) Show that the 5th term of S is $7+5\sqrt{2}$

(2)

(Total for question = 5 marks)

Q6.

$a = \sqrt{7}+\sqrt{c}$ and $b = \sqrt{63}+\sqrt{d}$ where c and d are positive integers.

Given that $c : d = 1 : 9$
find, in its simplest form, the ratio $a : b$

.....

(Total for question = 3 marks)

Q7.

* The diagram shows the triangle *PQR*.

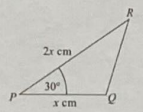

Diagram NOT accurately drawn

PQ = x cm
PR = $2x$ cm
Angle *QPR* = 30°

The area of triangle *PQR* = A cm^2

Show that $x = \sqrt{2A}$

(Total for Question is 3 marks)