

Question Two

(a) Express the following as a single fraction in its simplest form:

$$\frac{3x}{5-4x} - \frac{x}{x+7}$$

(4 marks)

(b) (i) Factorise $6x^2 + 19x + 10$

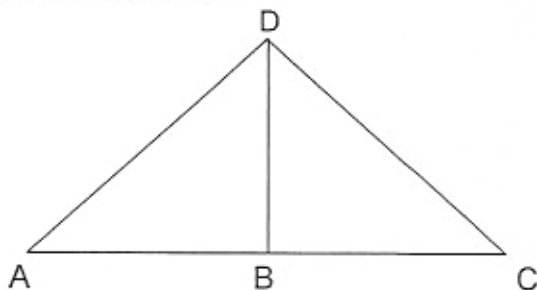
(2 marks)

(ii) Simplify $\frac{6x^2 + 19x + 10}{10x + 25}$

(6 marks)

(c) In the diagram ABC is a straight line and BD is a straight line perpendicular to it. It is given that $AD = 57$ cm, $BC = 65$ cm, $\angle DAB = 46^\circ$ and $\angle DBC = 90^\circ$.

Calculate the size of $\angle DCB$



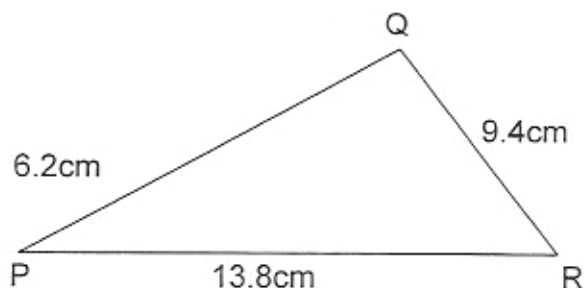
(4 marks)

(d) Factorise the expression $10x^2 + 21x - 10$ and hence solve the equation

$$10x^2 + 21x = 10$$

(4 marks)

(e)



(5 marks)

(i) Find the size of $\angle PQR$

(ii) Hence, find the area of $\triangle PQR$