c)

Area of triangle $= \frac{1}{2}ab\sin C = \frac{1}{2} \times 15 \times 12 \times \sin 86.5$

$$\boxed{89.8\ cm^2}$$

12- $\frac{6}{\sqrt{x}} \equiv \frac{6}{x^{\frac{1}{2}}} \equiv 6x^{-\frac{1}{2}}$ so $\frac{dy}{dx}$ of $6x^{-\frac{1}{2}} =$

$-3x^{-\frac{3}{2}} \equiv \frac{-3}{x^{\frac{3}{2}}} \equiv$

$$\boxed{\frac{-3}{\sqrt{x^3}}}$$

13- $3x^2 + 6x - 2 \rightarrow \frac{dy}{dx} \rightarrow 6x + 6 = 0$

$6x = -6$

$x = -1$

$3(-1)^2 + 6(-1) - 2 = 3 - 6 - 2 = -5$

$$\boxed{(-1, -5)}$$