2nd - exercise i) Area of ABCD = length x width (½)
= AB x BC
= x(x-2) units square.

2) A' = Area of (C) - Area DMC.

Now, M is a pt on (C) of diameter [DC] (given)
then, △DMC is right at M.

(½-pt) then Area of △DMC = $\frac{leg_1 \times leg_2}{2} = \frac{MD \times MC}{2}$

$= \frac{\pi}{2}$ units square

(½-pt) Area (C) = $\frac{\pi r^2}{2} = \frac{\pi x^2}{8}$.

$r = \frac{DC}{2} = \frac{x}{2}$ (AB = DC)

hence, $A' = \frac{\pi x^2}{8} - \frac{\pi}{2}$

(½-pt) Thus, $A' = \frac{\pi}{2}\left(\frac{x^2}{4} - 1\right)$ units square

3a) To verify given equality expand R.H.S

(¼) (¼) $(x-2)(3x-2) = 3x^2 - 2x - 6x + 4$
$= 3x^2 - 8x + 4$ ✓

b) $A' = \frac{\pi}{2} \times A$ (given).

(¼) So, $\frac{\pi}{2}\left(\frac{x^2}{4} - 1\right) = \frac{\pi}{2}[x(x-2)]$ $(\div \frac{\pi}{2})$

$\left(\frac{x^2}{4} - 1 = x^2 - 2x\right)$ $(\times 4)$

(¼) $3x^2 - 8x + 4 = 0$