

Question 1

$$a) \sqrt{\frac{153}{87}}$$

$$= 0.904534\dots$$

$$\neq 0.90 \text{ (not)}$$

$$= 0.905 \text{ (R to 3 sig fig)}$$

$$b) |x+3| < 2$$

$$x+3 < 2$$

$$-3 \quad -3$$

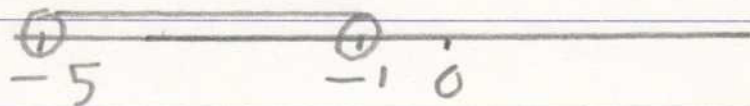
$$x < -1$$

$$-(x+3) < 2$$

$$-x-3 < 2$$

$$-x < 5$$

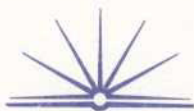
$$x > -5$$



$$c) x^2 - 2x - 8 = 0$$

$$(x+2)(x-4) = 0$$

$$\therefore x = -2, 4$$



$$d) \int 3 + \frac{1}{x}$$

$$= \int \frac{3^2}{2} + \ln x$$

$$e) \frac{x}{x^2-4} + \frac{2}{x-2}$$

$$= \frac{x}{(x+2)(x-2)} + \frac{2}{x-2}$$

$$= \frac{2 + x\cancel{(x+2)}}{\cancel{(x+2)}(x-2)}$$

$$= \frac{2+x}{x-2}$$

$$f) \quad \$979 \div 1.1$$

$$= \$890$$

\therefore the original price was \$890