

$$a) \frac{\sqrt{3^2 + 12^2}}{\sqrt{231 - 12^2}} = \frac{\sqrt{9 + 144}}{\sqrt{231 - 144}}$$

$$= \frac{\sqrt{153}}{\sqrt{87}}$$

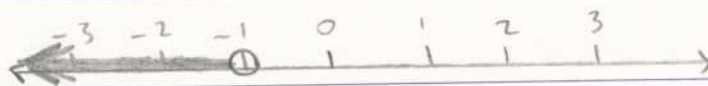
$$= 1.32613$$

$$= 1.32000 \text{ (to 3 sig figs)}$$

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

$$x + 3 < 2$$

$$\begin{array}{cc} -3 & -3 \\ x & < -1 \end{array}$$



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

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

$$x = 4, -2.$$

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

$$= 3 + x^{-1/2}$$

$$= 3x + \frac{x^{1/2}}{1/2} + C$$

~~$$= 3x + \frac{1}{2} x^{1/2} + C$$~~

$$= 3x + -\frac{1}{2} x^{1/2} + C$$

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

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

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

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

$$f) \$979 \quad 10\% \text{ tax} = \$10.88$$

$$\$979 + \$10.88$$

$$= \$989.88$$

\therefore the original price of the video recorder was \$989.88