

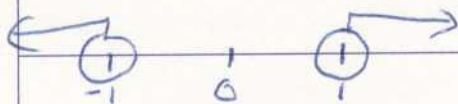
### Question 1.

$$a) \frac{\sqrt{3^2 + 12^2}}{231 - 12^2} = \sqrt{\frac{153}{87}} = 1.326$$

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

$$x+3 < 2 \text{ or } -x+3 < 2$$

$$x < -1 \quad -x < -1$$
$$x > 1$$



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

$$(x+4)(x-2) = 0 \quad \begin{array}{l} x^2 + 2x - 4x - 8 \\ x^2 + 2x - 8 \end{array}$$

$$\therefore x = 4, \text{ or } -2$$

$$d) 3 + \frac{1}{x} = 3 + x^{-1}$$
$$= 3x + x$$



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

$$= \frac{x(\cancel{x-2}) + 2(x^2-4)}{(\cancel{x^2-4})(\cancel{x-2})} = x+2$$

$$= \cancel{x^2} + \cancel{2x} + \cancel{2x^2} - 8$$

f) video recorder = \$979 includes 10% tax on original price

$$\text{Let } O = \text{original price} \quad V = \$979 + 10\%$$

$$O = \$889.10$$