

Q1

a) 1.33

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

then $(x+3)^2 < 4$

$$x^2 + 6x + 9 < 4$$

$$x^2 + 6x + 5 < 0 \quad \therefore x = -1 \text{ or } x = -5$$



c) $x = \frac{2 \pm \sqrt{4+32}}{2} = \frac{2 \pm 6}{2} = 4 \text{ or } -2$

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

d) $\int 3 + \frac{1}{x} = 3x + \ln|x| + C$

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

$$= \frac{3x+4}{x^2-4}$$

$$f) \quad 979 = A + \frac{1}{10} A$$

$$\therefore 979 = \frac{11}{10} A$$

$$\therefore A = \$890$$

The original price is \$890.