i) Factorise $x^2+3x-70$ $(x+10)(x-7)$ -70 : $+10$, -7

Expand and simplify $9(k+2)+3(k-8)$

$9k+18+3k-24$

$12k-6$

(b) (i) Simplify fully

$(m^8 \div m^6)(3m^2)^2 = \frac{m^8}{m^6} \times 9m^4 = \frac{9m^{12}}{m^6} = 9m^6$

(ii) $\frac{27y^7}{18y^4} \div 9 = \frac{3y^3}{2}$

ii) $11t^2-5t-6t^2-4t+t$ $5t^2-8t$

(iv) $2a^4+3m-a-3a^4+3m-a$ $-a^4-2a+6m$

(c) (i) Factorise x^2-81 $(x+9)(x-9)$

ii) simplify $\frac{x^2-36}{x+6}$ $\frac{(x+6)(x-6)}{(x+6)} = x-6$

(iii) simplify

$\frac{k}{2}+\frac{k}{7}$ $\frac{7k+2k}{14} = \frac{9k}{14}$

iv) simplify $64^{1/2} = \sqrt{64} = \pm 8$

(v) simplify $\frac{5x^4y^7}{15x^{-4}} \div 5 = \frac{x^4 \cdot x^4 \cdot y^7}{3} = \frac{x^8y^7}{3}$

(vi) simplify $\frac{4x}{y}+\frac{5y}{x^2} = \frac{4x \times x^2 + 5y \times y}{x^2y} = \frac{4x^3+5y^2}{x^2y}$

$= \frac{xy(4x^2+5y)}{x^2y} = \frac{4x^2+5y}{x}$

(vii) Simplify $\frac{4x}{y} \times \frac{5y}{x^2} = \frac{20xy}{x^2y} = \frac{20}{x}$

viii) Simplify $(49x^6y^{16}z^5)^{1/2}$

$= 7x^3y^8z^{5/2}$