HA4.1

1) Factorise and solve $x^2 - x - 12 = 0$

2) Express in completed square form $x^2 - 10x + 12$

3) Simplify $\frac{3x}{4} - \frac{x}{5}$

4) Expand and simplify $\sqrt{7}(2\sqrt{7} - 5)$

5) Find the gradient of the line $3y + 2x = -12$

HA4.2

1) Simplify $\frac{(3x^2y)^2}{xy}$

2) Express 1764 as a product of primes and hence find its square root

3) A price is increased from £300 to £345. Calculate the percentage change

4) Estimate $\frac{9.6^2-38}{2\cdot73416}$

5) Express 0.03008 in standard form

HA4.3

1) Factorise and solve $x^2 - 9x + 20 = 0$

2) Express in completed square form $x^2 + 14x + 100$

3) Simplify $\frac{5}{2x} - \frac{8}{3x}$

4) Expand and simplify $2\sqrt{3}\left(3 + 5\sqrt{3}\right)$

5) Find the gradient of the line $4 - 2y = 3x$

HA4.4

1) Simplify $\frac{(2x^3y)^3}{x}$

2) Express 216 as a product of primes and hence find its cube root

3) A price is reduced from £400 to £344. Calculate the percentage change

4) Estimate $\frac{8.107\times4.83}{0.002138}$

5) Express 430812.03 in standard form to 3 significant figures

HA4.5

1) Factorise and solve $x^2 - 7x + 12 = 0$

2) Express in completed square form $x^2 - 18x + 100$

3) Simplify $\frac{3x+4}{2} - \frac{2x-1}{3}$

4) Expand and simplify $3\sqrt{2}\left(2\sqrt{2} - 7\right)$

5) Find the gradient of the line $4x + 3y = 7$

HA4.6

1) Simplify $\frac{(3x^2y^3)^2}{x^2y}$

2) Express 324 as a product of primes and hence find its square root

3) A price is increased from £300 to £732. Calculate the percentage change

4) Estimate $\frac{46.77\times319}{0.032}$ by rounding each number to 1 significant figure

5) Express 0.005042 in standard form to 3 significant figures