HB1.1

1) Find the lowest common multiple of 8 and 14

2) Find the nth term of the sequence 5, 12, 19, 26, …

3) Work out $8 - 4 \times 2$

4) Work out 7.3×29

5) Work out $20520 \div 60$

HB1.2

1) Work out $4\frac{2}{5} - \frac{5}{7}$

2) Find 45% of £280

3) Expand and simplify $3(3x + 5) - 2(4x + 5)$

4) Solve $2(2x + 3) = 5$

5) Work out the value of $7 - 4e$ when $e = -2$

HB2.1

1) Expand and simplify $(x-5)(x+2)$

2) Factorise fully $18x^3 - 12x$

3) What is the 20th term of 14, 17, 20, 23, … ?

4) Divide £450 in the ratio 4 : 5

5) Work out $2.8 \div 0.4$

HB2.2

1) Decrease £8620 by 15%

2) Work out $3\frac{1}{3} \div \frac{2}{5}$

3) Work out the value of $3x^2 + y$ when $x = 4$ and $y = -8$

4) The mean of 12, 17, x , 20, 14 is 12. Find x

5) Solve $\frac{x}{3} + 4 = x + 6$

HB3.1

1) Solve $\frac{5x-3}{4} = x - 4$

2) Expand and simplify $5(2a + 3b) - 2(3a - 4b)$

3) Work out $2\frac{3}{4} \times 1\frac{2}{3}$

4) Work out $350 \div 0.7$

5) Work out $5 + 2 \times 3^2 - 2$

HB3.2

1) Complete 6 cm² = ……. mm²

2) Evaluate $2^3 \times 3^4$

3) Express 216 as a product of prime factors and hence show it is a cube number

4) Make x the subject of $y = \frac{x}{a} - b^2$

5) Calculate the area of a circle with radius 6 cm. Leave your answer in terms of π

HB4.1

1) Increase \$560 by 15%

2) Round 0.0362 to one significant figure

3) Factorise $x^2 + x - 12$

4) Divide £747 in the ratio 7 : 2

5) Work out 15840 ÷ 45

HB4.2

1) If $x = -3$ find the value of $2x^2 + 10$

2) By rounding each number to one significant figure, estimate $\frac{623 \times 27.4}{91.3}$

3) Find the nth term of the sequence 58, 64, 70, 76, …

4) Express 84 as a product of prime factors

5) Expand $(x + 4)(x - 2)$

HB5.1

1) A price is increased from £400 to £430.
Calculate the percentage increase.

2) Simplify $\sqrt{6} \times \sqrt{15}$

3) Expand and simplify $(x - 4)(x - 6)$

4) Work out $\frac{4}{7} \div \frac{2}{5}$

5) Make x the subject of $y = ax^2 + b$

HB5.2

1) Solve $5x - 6 > x + 14$

2) Work out $8 - 2 \times 3 + 1$

3) Simplify $(4xy^3)^3$

4) Work out 83×27

5) Express 0.0304 in standard form

HB6.1

1) Expand and simplify $(3x - 2)(2x - 4)$

2) Simplify $4\sqrt{5} + 2\sqrt{5}$

3) Find the gradient of the line $2y + 3x = -1$

4) Work out the value of $3x^2 + 2x$ when $x = 4$

5) Find the 100th term of 7, 2, -3, -8, …

HB6.2

1) Solve, by factorising, $x^2 - 4x - 21 = 0$

2) Evaluate $16^{\frac{1}{2}}$ (i.e 16 to the power of a half)

3) Solve, and show on a number line, $7x - 4 \geq 5x + 3$

4) Work out $3.4 \times 10^4 + 2.7 \times 10^3$

5) Find the gradient of the line joining points $(3\ ,\ 2\ )$ and (5 , 10)