HB1.5

1) Find the lowest common multiple of 70 and 55

2) Find the 50^{th} term of 29, 36, 43, 50, …

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

4) Work out 4.6×27

5) Work out 5616 ÷ 24

HB1.6

1) Work out $5\frac{2}{5} - 2\frac{3}{4}$

2) Find 90% of £280

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

4) Solve $2(5x + 3) = -13$

5) Work out the value of $20 + 3a^2$ when $a = -3$

HB2.5

1) Expand and simplify $(x + 3)^2$

2) Factorise fully $20x^3 - 14x$

3) What is the 30th term of -6, -1, 4, 9, … ?

4) Divide 640kg in the ratio 3 : 5

5) Work out $34.26 \div 0.3$

HB2.6

1) Decrease £820 by 85%

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

3) Work out the value of $7 + xy$ when $x = 5$ and $y = -4$

4) The mean of 8, x, 12, 9, x and 7 is 13. Find the value of x

5) Solve $\frac{x}{5} + 2 = x + 4$

HB3.5

1) Solve $\frac{x}{3} - 5 = 2x + 5$

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

3) Work out $5\frac{3}{7} + 6\frac{2}{3}$

4) Work out $7.92 \div 0.9$

5) Work out $8 + (2 \times 5^2)^2$

HB3.6

1) Complete 200 cm² = ……. mm²

2) Evaluate $5^2 \times 2^5$

3) Express 729 as a product of prime factors and hence show it is a square number

4) Make x the subject of $y = a - \sqrt{x}$

5) Calculate the area of a semi-circle with diameter 8 cm. Leave your answer in terms of π

HB4.5

1) Decrease £340 by 85%

2) Round 382 to one significant figure

3) Factorise $x^2 - 36$

4) Divide £245 in the ratio 3 : 2

5) Work out 90741 ÷ 21

HB4.6

1) If $x = 6$ find the value of $0.5x^2$

2) By rounding each number to one significant figure, estimate $\frac{427}{2.138 \times 3.614}$

3) Find the nth term of the sequence 3, 9, 15, 21, …

4) Express 60 as a product of prime factors

5) Expand $(x + 8)(x - 2)$

HB5.5

1) A price is increased from £120 to £138.
Calculate the percentage increase.

2) Simplify $\sqrt{2} \times \sqrt{40}$

3) Expand and simplify $(x - 5)^2$

4) Work out $\frac{5}{6} \div \frac{1}{3}$

5) Make x the subject of $y = \sqrt{ax + b}$

HB5.6

1) Solve $5x + 8 \leq 2 + 3x$

2) Work out $1 + 2 - 3 \times 4$

3) Simplify $3a^3 \times 2b^2 \times 2a^4 \div b$

4) Work out 24×366

5) Express 0.000401 in standard form

HB6.5

1) Expand and simplify $(4x - 5)(3x - 7)$

2) Simplify $7\sqrt{5} - 6\sqrt{5}$

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

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

5) Find the 100th term of 3.5, 5, 6.5, 8, 9.5, …

HB6.6

1) Solve, by factorising, $x^2 + 2x - 24 = 0$

2) Evaluate $9^{-\frac{1}{2}}$ (i.e. 9 to the power of $-\frac{1}{2}$)

3) Solve, and show on a number line, $7x + 8 \leq 4 - 3x$

4) Work out $6.8 \times 10^5 - 3.1 \times 10^4$

5) Find the gradient of the line joining points $(2\ ,\ 1\ )$ and (0 , 13)