



- 1 List all the factors of 36.
- 2 What is the HCF of 108 and 126
- 3 Light A blinks every 8.4 seconds. Light B blinks every 6.3 seconds. If both lights blink at the same time, after how long do they blink again at the same time?
- 4 Round  $\sqrt{2}$  to the nearest hundredth.
- 5 In the number 57346.291, what is the value of the seven?
- 6 Round 0.003834 to one significant figure.
- 7 Round 56399 to two significant figures.
- 8 Truncate 853246 to the nearest thousand.
- 9 G is rounded to the nearest ten. It rounds to 400. Write down the error interval of G.
- 10 Find the value of  $\frac{2^{15} - 5^6}{4^3}$ . Give your answer as a number.
- 11 Find the value of  $\frac{64^5 \times 16^5 \times 1024^7}{128^{17}}$ . Give your answer in index form.
- 12 Factorise  $35a^8b^4c^7 + 56a^{11}b^7c^2 - 84a^5b^2 + 14a^4b^2$  fully.
- 13 Expand and simplify  $12xy^2(8x^3 + 6y + 7) - 7x^2y(6x^2 + 3y^2 - 9)$
- 14 Expand  $(11x - 7)(9x + 3)(5x - 4)$
- 15 Factorise and solve  $24x^2 - 68x + 48 = 0$
- 16 Write  $3x^2 + 24x - 72$  in completed square format.
- 17 Factorise  $\frac{25}{36}x^{12} - \frac{81}{225}y^{11}$
- 18  $\frac{512}{3125} \times \frac{81}{343} \times \frac{55}{243} \times \frac{35}{48} \times \frac{64}{88} \times \frac{25}{56} =$
- 19 Estimate  $\frac{442 \times 0.0653 \times 59613}{33.35 \times 19.923 \times 86.944} \approx$
- 20  $\frac{m^a \times m^{2a} \times n^{-6}}{n^{-8}} = m^{27}n^b$  Find the values of a and b.