

1. Express 18 and 60 as products of their prime factors. Find
 - (a) The smallest integer which is an exact multiple of both 18 and 60.
 - (b) The largest integer which is a common factor of both 18 and 60.

2. (a) Express 792 as a product of its prime factors.
- (b) Hence, find the exact value of $\sqrt[3]{792 \times 363}$.

3. Express 756 as a product of its prime factors.
- (a) Find the smallest value of n if $756n$ is a perfect cube.
 - (b) Find the smallest value of m if $756m$ is divisible by 175.

4. Adeline, Belle, Callie and Dolly share a ball of string equally. Adeline cuts hers into lengths of 6 cm, Belle's into 10 cm, Callie's into 16 cm and Dolly's into 24 cm without any leftover string. Find the total length of the ball of string.

5. (a) Find the smallest possible value of
- (i) a whole number A , if it leaves a remainder of 3 when divided by 7, 8 or 12.
 - (ii) a whole number B , if it leaves a remainder of 2 when divided by 4, 6 or 9.
- (b) Hence, calculate the HCF and LCM of A and B .

6. The dimensions of a tile are 42 cm by 36 cm.
- (a) If such tiles are used to lay a floor area of a square unit, what is the least number of tiles required?
 - (b) If one such tile can be cut into smaller squares equally without any wastage, what is the longest length of each side of the smaller square?