1. Here is a prime factor tree.

   (i) Circle the leaves (prime factors)

$$
\begin{array}{c}
2 \quad 2 \\
2 \quad 4 \\
2 \qquad 8 \\
16
\end{array}
$$
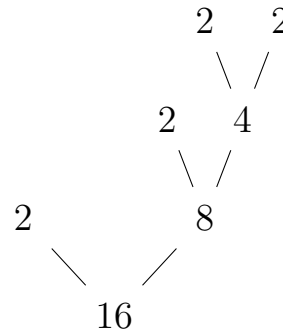
   (ii) Write 16 as a product of its prime factors

2. Jarvis uses an "easy first" strategy to draw his prime factor trees.

   Kai uses a "smallest prime first" strategy to draw his prime factor trees.

   Both boys have drawn incomplete prime factor trees.
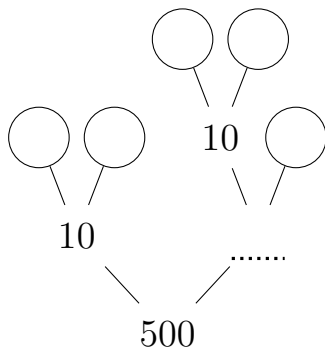
   Jarvis's prime factor tree   Kai's prime factor tree
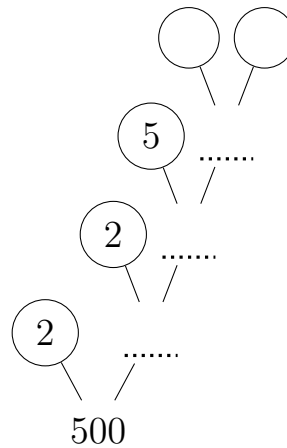
   Complete **either** Jarvis's **or** Kai's prime factor tree.

3. (a) Complete this prime factor tree.

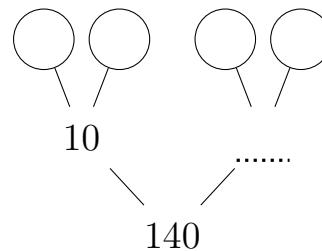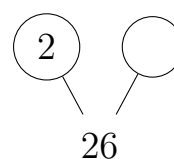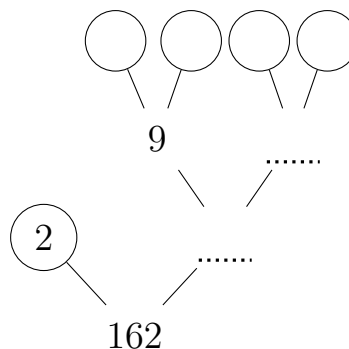   (b) Complete this prime factor tree.

4. (i) Complete this prime factor tree.

(ii) Write 162 as a product of its prime factors.

5. Students ONLY need to be able divide by 2 or 10 without a calculator

Write 700 as a product of its prime factors

6. Students ALSO need to be able divide by 9 (up to 81) without a calculator
AND know $9 = 3 \times 3$ without a calculator

Write 216 as a product of its prime factors

7. Students ALSO need to be able to divide by 3 and 5 without a calculator

Write 330 as a product of its prime factors

8. (a) Write 75 as a product of its prime factors.

(b) Find the Highest Common Factor (HCF) of 60 and 75

9. Given that $E = 2^3 \times 3^5 \times 5$ and $F = 2^4 \times 3 \times 5^2$
write down, as a product of powers of its prime factors,

(i) the highest common factor (HCF) of E and F

(ii) the lowest common multiple (LCM) of E and F.

13. Students ALSO need to be able to divide by other primes e.g. 7 and 11 and 13 etc.
AND students need to reason about which primes to try to divide by.

Write 195 as a product of its prime factors