HCFs and LCMs

1. Factual recall

a) List the factors of 20

b) Find the prime factorisation of 96

2. Carry out a routine procedure

Find the HCF and LCM of…

a) 18 and 40

b) 32 and 72

c) 93 and 124

3. Classify some mathematical object

By finding the HCF and LCM which question is the odd one out?

a) 9 and 16

b) 36 and 144

c) 32 and 18

4. Interpret a situation or answer

Two train journeys travelling to York and London leave at 8am.

Trains to York leave every **36** mins.
Trains to London leave every **42** minutes.

When is the next time both trains leave the station at the same time?

5. Prove, show, justify

The prime factorisation of 2 numbers is:

$$x = 2^2 \times 3^k \times 5^2$$
$$y = 2^k \times 3 \times 5^2$$

Where $k > 1$.
The lowest common multiple of x and y is 5400.
Show that $k = 3$

6. Extend a concept

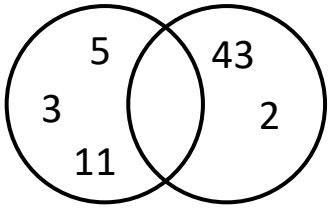
Find the HCF and LCM of 18, 24 and 32.

7. Construct an instance

Find a pair of numbers that have a HCF of 9 and a LCM of 315

8. Criticise a fallacy

Zac fills out his Venn diagram as follows:



Zac says the HCF is 0 since there are no numbers in the centre.
Explain why Zac is wrong.