Common factors: answers

Practised: finding factor pairs, common factors and the highest common factor (HCF) of two numbers (Year 6).

Page 1 · Warm up

1 × **24** · 2 × **12** · 3 × **8** · 4 × **6**

Page 2 · Try it together

12: 1 × 12, 2 × 6, 3 × 4. → **1, 2, 3, 4, 6, 12**
18: 1 × 18, 2 × 9, 3 × 6. → **1, 2, 3, 6, 9, 18**
Common factors **1, 2, 3, 6** · HCF **6**

Page 2 · A. Factors of 16

1, 2, 4, 8, 16 (not 3, 5, 6, 10, 12 or 32)

Page 2 · B. HCF

8 and 12: **4** · 15 and 25: **5** · 14 and 21: **7**
16 and 24: **8** · 9 and 10: **1**

Page 3 · C. Venn diagram

20 only: **4, 20** · Both: **1, 2, 5, 10** · 30 only: **3, 6, 15, 30**
HCF of 20 and 30: **10**

Page 3 · D. True or false

T · **T** (1 divides into every whole number) **F** (20 is a multiple of 4) · **F** (it's 6: 12 doesn't divide into 6)

Page 3 · E. HCF of 5

Many answers, such as **10 and 15** or **15 and 25**: both multiples of 5, with no bigger common factor.

Challenge: No. 4 is a factor of 12 but not of 18, and 9 is a factor of 18 but not of 12, so they aren't *common*. The common factors are **1, 2, 3 and 6**.

Watch out for

- **Mixing up factors and multiples.** Factors of 12 fit *into* 12 (1, 2, 3…). Multiples of 12 are in its times table (12, 24, 36…).
- **Missing factors.** Listing at random misses some. Work in pairs from 1 upwards and stop when the pairs repeat.
- **Including factors of only one number.** Check each one: "Does it divide into the first number? And the second?"

Going further (5 minutes, no paper)

- **Sharing out:** "We have 12 apples and 18 pears. What's the most bags we can make with the same in each bag?" (6, the HCF.)
- **Factor ping-pong:** take turns saying a factor of 36 until you run out (1, 2, 3, 4, 6, 9, 12, 18, 36).
- **In the game:** Chapter 2 finds common multiples, where two times tables meet.