Representing situations as equations

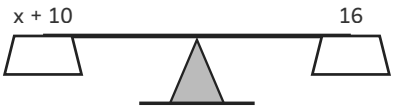
MODULE 10 · ALGEBRA — PATTERNS, EXPRESSIONS AND EQUATIONS ALGEBRA

HOW TO ANSWER TODAY

- **Solve for x.** Do the OPPOSITE operation to both sides. + becomes −; × becomes ÷.
  $x + 7 = 15 \rightarrow x = 15 - 7 = 8$ $3x = 21 \rightarrow x = 21 \div 3 = 7$
- **Solve in two steps.** Undo the + or − first, then undo the × or ÷.
  $2x + 5 = 13 \rightarrow 2x = 8 \rightarrow x = 4$

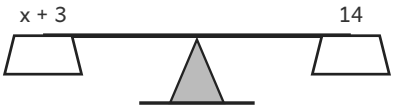
STRETCH PROBLEMS

1. Aoife is packing items for the school-bag rota. She has already packed **10** items and will have **16** packed in total when she finishes. How many more items does she still need to pack?



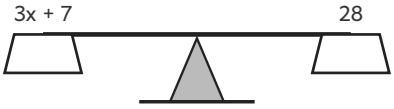
Find x so the scale balances.

2. On the school nature walk through the local park, Méabh collects some pine cones. She then finds **3** more under a tree and now has **14** pine cones in total. How many pine cones did she have at the start?



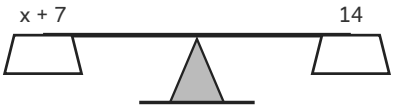
Find x so the scale balances.

3. In the school polytunnel, Saoirse plants the same number of seeds in each of **3** pots and then plants **7** more seeds in a seed tray. She plants **28** seeds altogether. How many seeds does she plant in each pot?



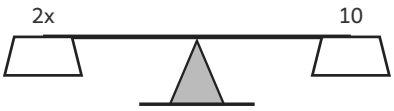
Find x so the scale balances.

4. Cara counts the books on the class library shelf at the start of the week. After **7** returned books are put back, there are **14** books on the shelf in total. How many books were on the shelf at the start?



Find x so the scale balances.

5. Tadhg and his friend share a packet of **10** biscuits equally at break time. If each gets x biscuits, then 2x = **10**. What is the value of x?



Find x so the scale balances.