

Turning word problems into number sentences

MODULE 10 · ALGEBRA — PATTERNS, RULES AND NUMBER SENTENCES

ALGEBRA

HOW TO ANSWER TODAY

- **Solve for x.** Do the OPPOSITE operation to both sides. + becomes -; $\times$ becomes $\div$.

$$x + 7 = 15 \rightarrow x = 15 - 7 = 8 \quad 3x = 21 \rightarrow x = 21 \div 3 = 7$$

- **Function machine.** Do EACH step of the rule in order to the input.

$$\text{Rule } \times 4 + 2, \text{ input } 5 \rightarrow 5 \times 4 = 20, + 2 = 22$$

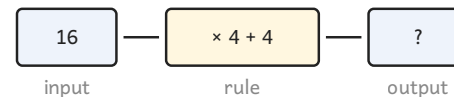
★ STRETCH PROBLEMS

- 1 On the school tour to the Cliffs of Moher, 5th class share all their tour photos equally into 11 albums. Each album ends up with 5 photos. If x stands for the total number of photos, then $x \div 11 = 5$. How many photos did they take?

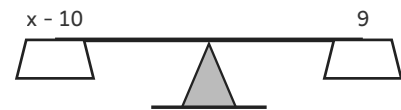


Find x so the scale balances.

- 2 At the class sleepover, a party bag machine takes a number of biscuits and works out how many treats go in each bag. The rule is multiply by 4, then add 4. If the machine takes an input of 16, what output does it give?

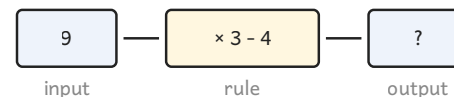


- 3 Aoife watches the classroom bird feeder. After 10 birds fly away, 9 birds are still feeding. If x is the number of birds at the start, then $x - 10 = 9$. How many birds were there at the start?



Find x so the scale balances.

- 4 Cara sets up a treat machine for her sleepover. It takes the number of guests, multiplies it by 3 and then takes away 4 to work out how many biscuits to lay out. If 9 friends come, how many biscuits does the machine say to lay out?



- 5 In Aoife's 4th class maths game, a function machine follows the rule multiply by 4, then add 9. Aoife feeds in the number 20. What number comes out of the machine?

