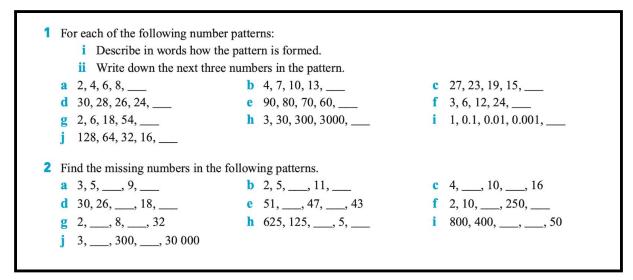
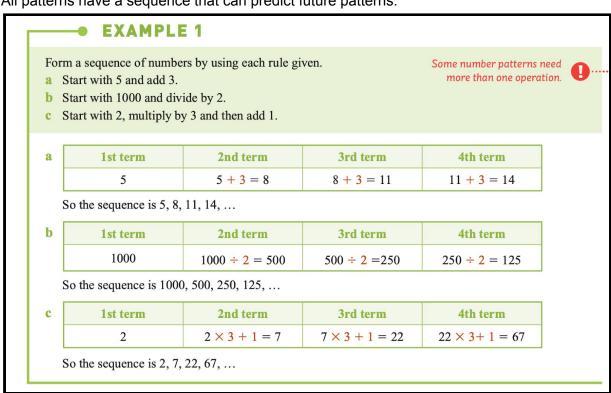
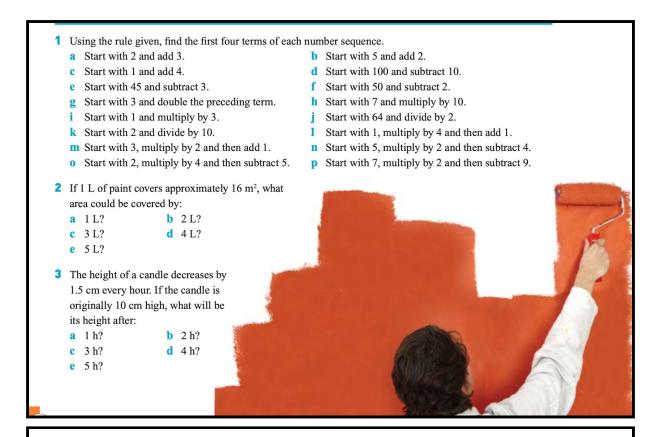
Walt complete number patterns and find the rule for each pattern Success Criteria I can understand the sequence of the pattern given and make up a rule



Walt Build patterns and create a rule

Success Criteria I know I can create a pattern and a rule associated with the pattern. All patterns have a sequence that can predict future patterns.





4 The cost of hiring a taxi is \$5 plus \$3.50 for each kilometre travelled. How much does it cost to travel:

a 1 km?

b 2 km?

c 3 km?

d 4 km?

e 5 km?

5 The time taken to roast a piece of meat is 20 min plus an extra 15 min for each  $\frac{1}{2}$  kg of meat. How long will it take to roast a piece of meat that weighs:

 $\frac{1}{2}$  kg?

**b** 1 kg?

c  $1\frac{1}{2}$  kg?

d 2 kg?

**e**  $2\frac{1}{2}$  kg?

## Check your answers

- 1 a i Starting with 2, each number is 2 more than the number before it.
  - ii 10, 12, 14
  - **b** i Starting with 4, each number is 3 more than the number before it.
    - ii 16, 19, 22
  - c i Starting with 27, each number is 4 less than the number before it.
    - ii 11, 7, 3
  - d i Starting with 30, each number is 2 less than the number before it.
    - ii 22, 20, 18
  - e i Starting with 90, each number is 10 less than the number before it.
    - ii 50, 40, 30
  - f i Starting with 3, each number is 2 times the number before it.
    - ii 48, 96, 192
  - g i Starting with 2, each number is 3 times the number before it.
    - ii 162, 486, 1458
  - h i Starting with 3, each number is 10 times the number before it.
    - ii 30 000, 300 000, 3 000 000
  - i Starting with 1, each number is  $\frac{1}{10}$  of (or 0.1 times) the number before it.
    - ii 0.0001, 0.000 01, 0.000 001
  - j i Starting with 128, each number is  $\frac{1}{2}$  of the number before it.
    - ii 8, 4, 2
- **2 a** 7, 11 **b** 8, 14 **c** 7, 13
  - d 22, 14 e 49, 45 f 50, 1250
  - **g** 4, 16 **h** 25, 1 **i** 200, 100
  - j 30, 3000

## EXERCISE 140

- **1 a** 2, 5, 8, 11, ... **b** 5, 7, 9, 11, ... **d** 100, 90, 80, 70, ... c 1, 5, 9, 13, ... e 45, 42, 39, 36, ... **f** 50, 48, 46, 44, ... **h** 7, 70, 700, 7000, ... **g** 3, 6, 12, 24, ... i 1, 3, 9, 27, ... **j** 64, 32, 16, 8, ... **k** 2, 0.2, 0.02, 0.002, ... 1 1, 5, 21, 85, ... **n** 5, 6, 8, 12, ... **m** 3, 7, 15, 31, ... **p** 7, 5, 1, −7, ... **o** 2, 3, 7, 23, ... **b**  $32 \text{ m}^2$ c 48 m<sup>2</sup> 2 a 16 m<sup>2</sup> d 64 m<sup>2</sup> e 80 m<sup>2</sup> 3 a 8.5 cm **b** 7 cm c 5.5 cm d 4 cm e 2.5 cm
- 4 a \$8.50
   b \$12
   c \$15.50

   d \$19
   e \$22.50

   5 a 35 min
   b 50 min
   c 65 min

   d 80 min
   e 95 min