A grid can be used to describe a code.

For example, the code for T is (6, 3).

3   Z Y X W V U T S R
2   I J K L M N O P Q
1   H G F E D C B A 0
0   9 8 7 6 5 4 3 2 1
    0 1 2 3 4 5 6 7 8

Bernie writes a message in this code: (4, 1)(6, 2)(5, 2)(3, 1) (7, 1)(6, 3) (4, 0)(7, 1)(4, 2).

The message says

○ DINE AT 5PM   ○ GONE AT 4PM   ○ DONE AT 5AM   ○ FINE AT 4AM

Sergio wanted to subtract 60 but instead added 60 by mistake. His answer was 320.

What should it have been?

○ 140

○ 200

○ 260

○ 380

A supermarket sells for $5 a bag of oranges with a mass of 3 kg.

The same oranges are available individually at $2.20 per kg.

How much would Shinhye save if she bought two bags of oranges instead of 6 kg of individual oranges?

- ○ $0.80
- ○ $2.20
- ○ $3.20
- ○ $8.20

A car travels 20 kilometres every 15 minutes.

Which number sentence gives the speed in kilometres per hour?

20 × 0.15	20 × 0.25	20 ÷ 0.15	20 ÷ 0.25
⬭	⬭	⬭	⬭

When a bottle of tomato sauce is half full, the mass of the bottle and the sauce is 400 g.

When the bottle is empty, the mass of the bottle is 120 g.

What was the mass when the bottle was full of sauce?

○ 520 g

○ 680 g
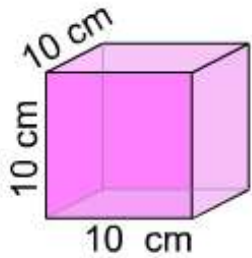
○ 720 g

○ 740 g

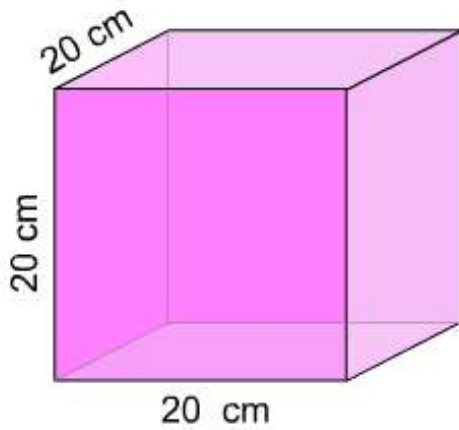$(48 - \Delta) - 16 = 48 - (32 - 16)$

What is the value of Δ?

- ○ 0
- ○ 16
- ○ 24
- ○ 32

The container above holds 1 litre of water.

How much water will the container below hold?

- ( ) 2 litres
- ( ) 4 litres
- ( ) 6 litres
- ( ) 8 litres

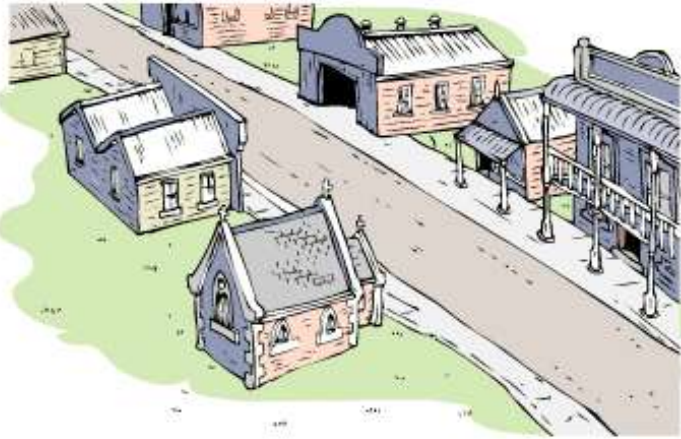Ron has a 3D solid. It has eight edges and five faces.

What could be Ron's solid?

- ⬭ Triangular prism

- ⬭ Triangular pyramid

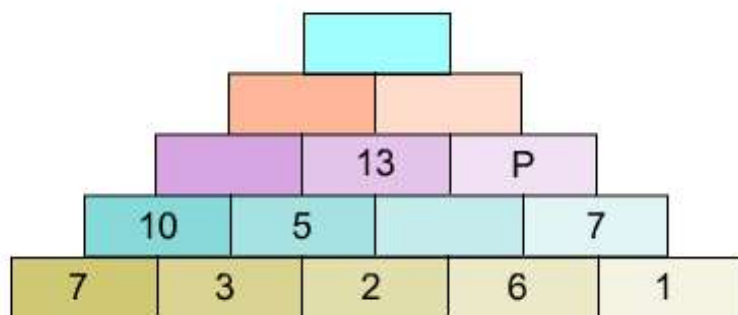- ⬭ Rectangular prism

- ⬭ Rectangular pyramid

Dryden, Onetree and Spinifex are three towns situated along the same straight road.
Onetree is 20 km from Dryden. Spinifex is 30 km from Onetree.

How far apart are Dryden and Spinifex?

○ They must be 10 km apart.

○ They must be 50 km apart.

○ They could be 10 km or 50 km apart.

○ They could be 5 km or 25 km apart.

The numbers in these boxes follow a pattern. Some of the numbers are missing.
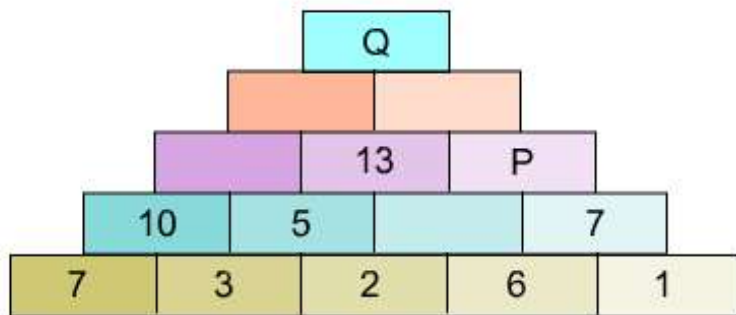

What is the value of P?

- ○ 11
- ○ 13
- ○ 14
- ○ 15

The numbers in the boxes follow a pattern. Some of the numbers are missing.

What is the value of Q?

○ 28   ○ 54   ○ 56   ○ 58

These shapes follow a pattern:

What is the rule for the next shape in the pattern?

○ rotate the shape 45 degrees anticlockwise

○ rotate the shape 45 degrees clockwise

○ rotate the shape 90 degrees anticlockwise

○ rotate the shape 90 degrees clockwise

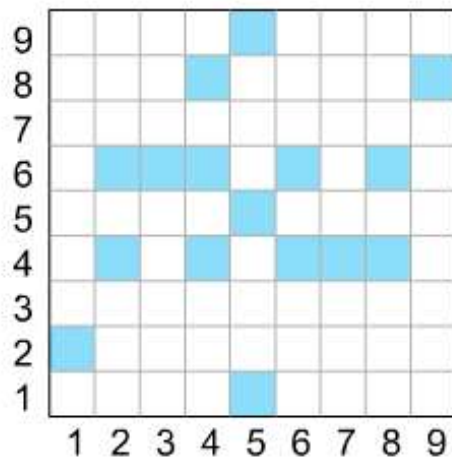Which number gives the best estimate of the number of days in 19 years?

- ◯ 700
- ◯ 7000
- ◯ 70 000
- ◯ 700 000

Most crossword puzzles have half-turn symmetry. If rotated through 180 degrees about the centre, the grid would look the same.

Which other square would need to be shaded for this crossword grid to have half-turn symmetry?
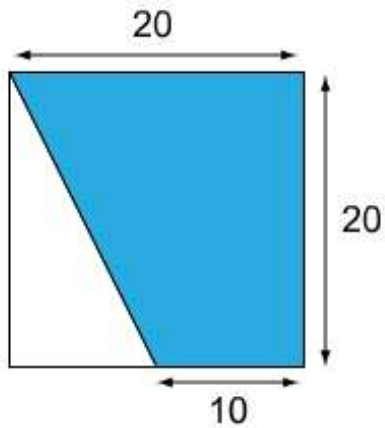
- ○ Column 3, Row 4
- ○ Column 7, Row 6
- ○ Column 4, Row 2
- ○ Column 6, Row 2

This square carpet tile has two colours.

All dimensions are in centimetres.

20

20

10

What is the area of the blue section of the tile?

150 cm²

250 cm²

300 cm²

350 cm²

The sum of some numbers is 278.

If one of the numbers is changed from 47 to 74, what is the new total?

- ○ 305
- ○ 312
- ○ 315
- ○ 352

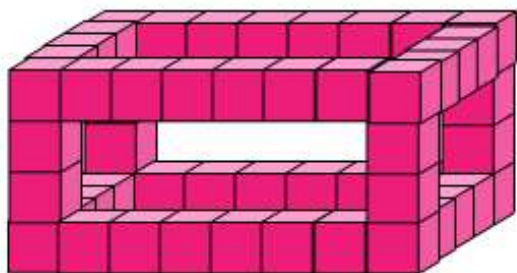Which of the following is the closest approximation to 802 ÷ 0.41?

○ 2

○ 20

○ 200

○ 2000

Olivia is making shapes with centicubes (cubes of edge length 1 cm that can be joined together). She wants to make this shape.

How many centicubes will Olivia need?
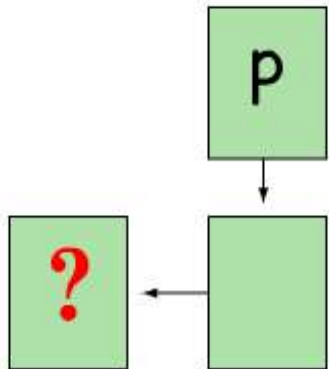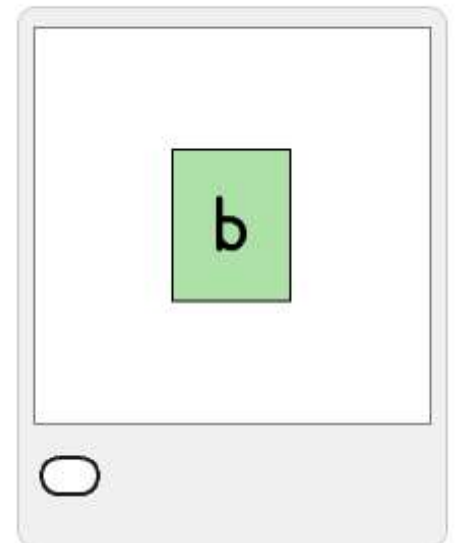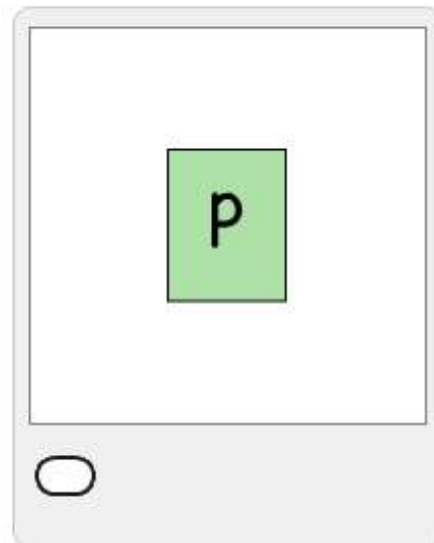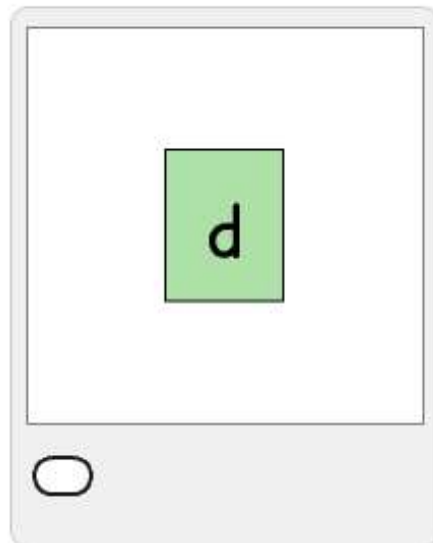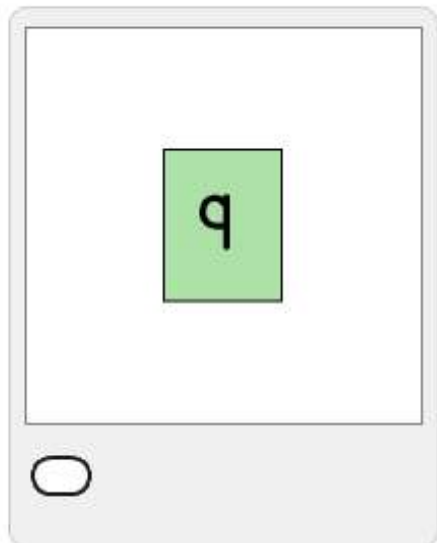
- ◯ 52
- ◯ 62
- ◯ 96
- ◯ 124

Carl writes the letter p on a piece of paper.

He flips the paper over its bottom edge so that the blank side of the paper faces him.

He then flips it over its left side edge so that the side of the paper with the p faces him.

Which of the following does Carl see?

q	d	p	b
○	○	○	○

Claire takes 15 minutes to dig a garden bed.

Jarrod can dig the same garden bed in 10 minutes.

How long will it take to dig the garden bed if they work together?

5 min	6 min	$7\frac{1}{2}$ min	25 min
⬭	⬭	⬭	⬭