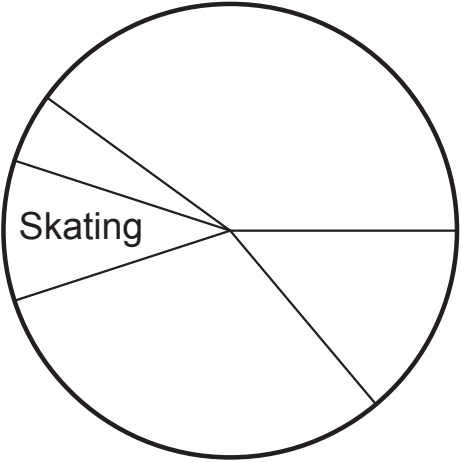


The table shows the percentages of a group of people who took part in sports on a Saturday. Label the correct two sections of the pie chart **football** and **riding**.

| | |
|----------|-----|
| Skating | 10% |
| Football | 40% |
| Riding | 5% |
| Swimming | |
| Tennis | |



More people went swimming than played tennis.
Use the chart to estimate the percentages of people who went swimming and played tennis.
Write them in the boxes above.

If 260 people altogether took part in the sports,
how many people played football?

If 64 people went riding, how many people
altogether took part in the sports?

Draw lines to join equivalent expressions.

In the empty boxes, write equivalent expressions for the two expressions that have no equivalent.

| | |
|------------|---------------|
| $n + n$ | $n \times n$ |
| $n \div 3$ | $4n + 8$ |
| $2n + 3$ | $3 \times n$ |
| n^2 | $3 + n + n$ |
| $4(n + 2)$ | $2n$ |
| $5n$ | $n \div 5$ |
| $3n$ | $\frac{n}{3}$ |
| | |

1 Explain what is wrong with this simplification.

$$\begin{aligned}2(3d + 7) - 2(d - 4) &= 6d + 7 - 2d - 8 \\ &= 4d - 15 \\ &= -11d\end{aligned}$$

2 Simplify:

$$5(p - 2) - (4 - 2p)$$

3 Explain why these three expressions are equivalent:

i. $3(b + 5) - (b + 3)$

$$2b + 12$$

$$2(b + 6)$$

ii. $3(b + 5) - (b - 3)$

$$2b + 18$$

$$2(b + 9)$$

| | |
|-------------|-------------------------------|
| $2(3a - 2)$ | $4a^2 + 2(3a - 2) - (2a)^2$ |
| $6a - 4$ | $2 + 5a - 6 + a$ |
| $3(a - 1)$ | $(a - 5) + 2(a + 1)$ |
| $3a - 3$ | $7a - 3 - 4a$ |
| $2a + 18$ | $3(a + 5) - (a - 3)$ |
| $2(a + 9)$ | $20 + 5a - 2 - 3a$ |
| $2(a + 6)$ | $3(a + 5) - (a + 3)$ |
| $2a + 12$ | $10 - 5a + 2 + 7a$ |
| $2(a - 6)$ | $4(1 - a) + 2(3a - 8)$ |
| $2a - 12$ | $9 - 5a - 21 + 7a$ |
| $5(a - 1)$ | $5(a^2 + a + 1) - 5(a^2 + 2)$ |
| $5a - 5$ | $a(5a + 3) - (5a^2 - 2a + 5)$ |

Diagram 1

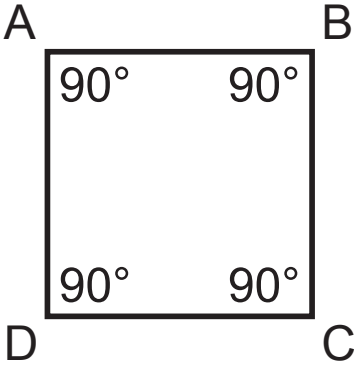


Diagram 2

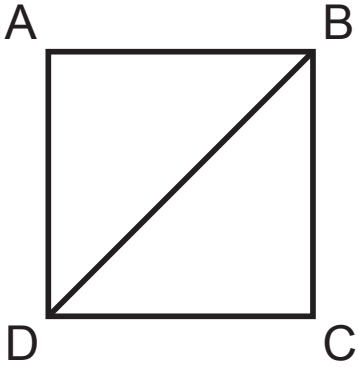


Diagram 3

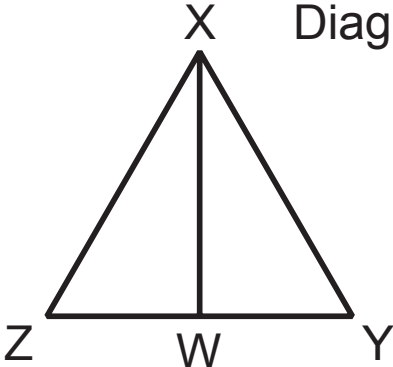


Diagram 4

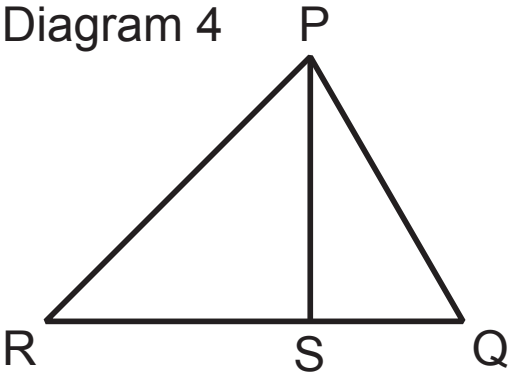
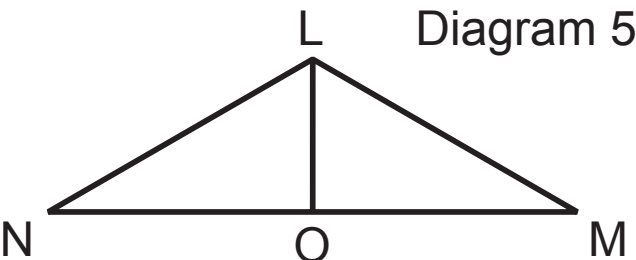
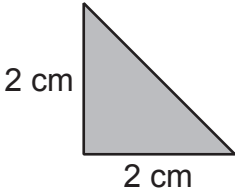


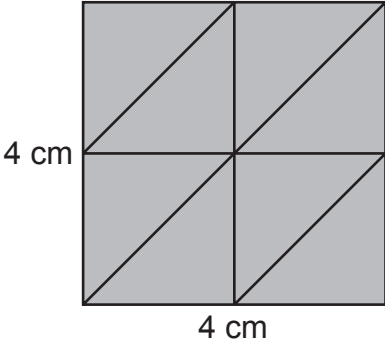
Diagram 5



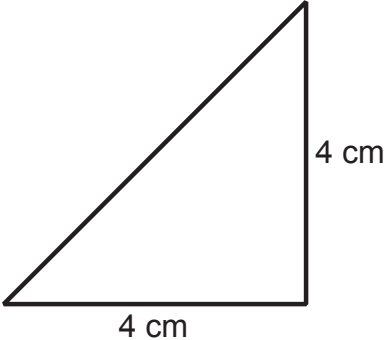
This is a right-angled triangular tile.



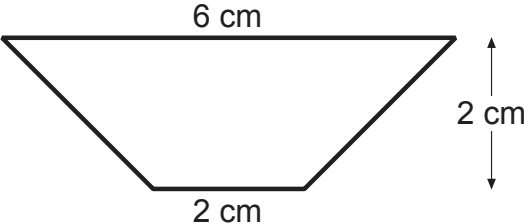
You can fit 8 of the triangular tiles into a 4 cm by a 4 cm square like this.



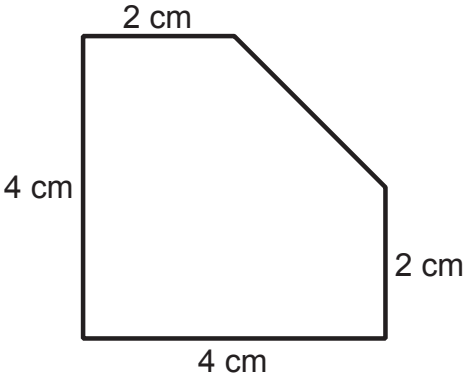
How many of the triangular tiles you can fit into each of these shapes?



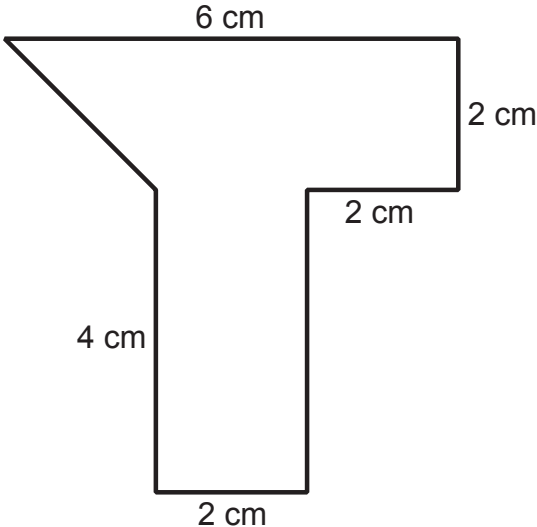
Number of tiles:



Number of tiles:

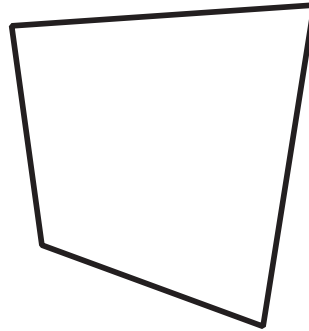


Number of tiles:

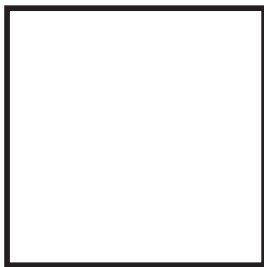


Number of tiles:

quadrilateral



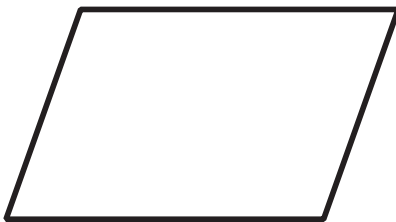
Quadrilaterals with special properties



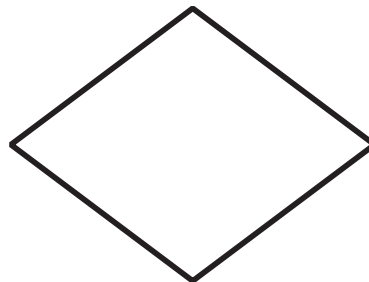
square



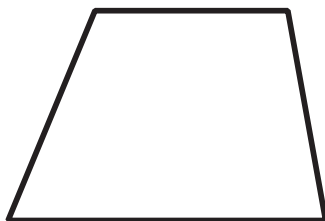
rectangle



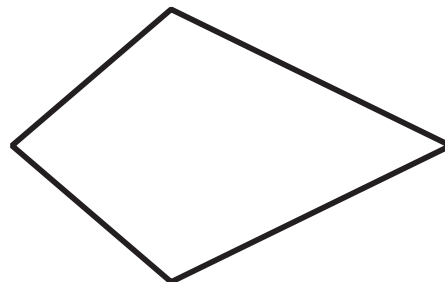
parallelogram



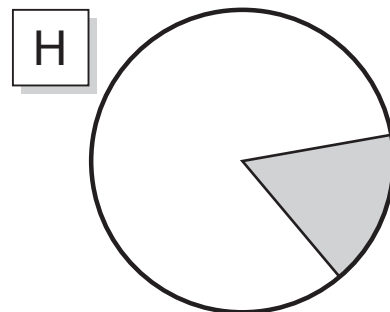
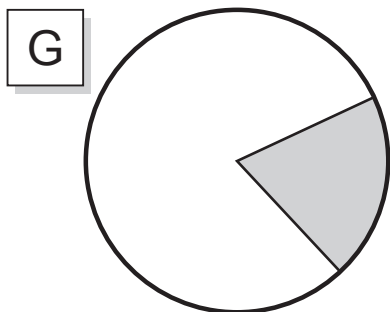
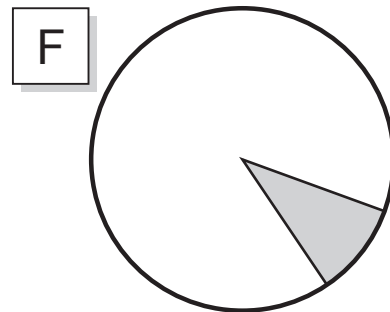
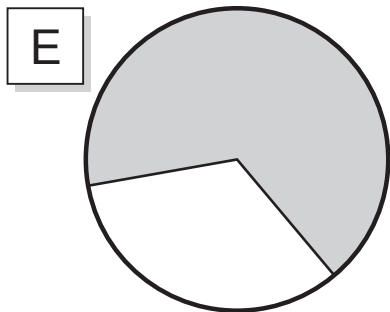
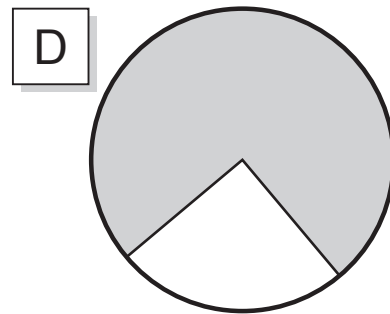
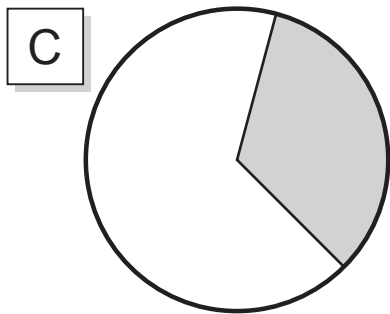
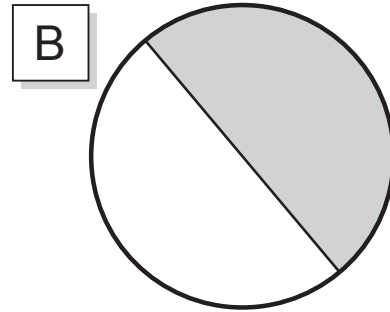
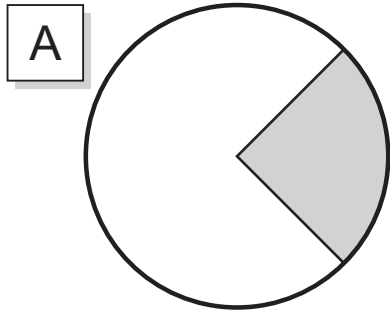
rhombus



trapezium



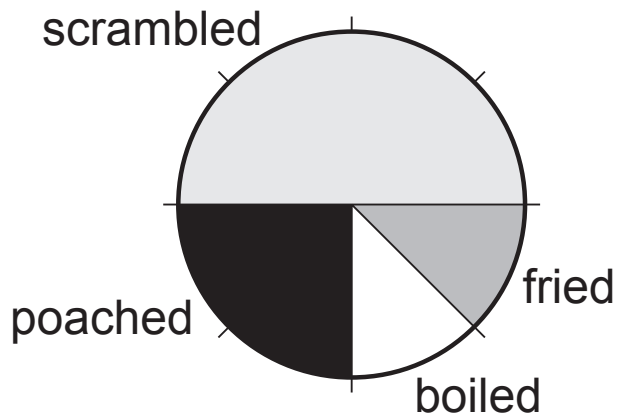
kite



16 students said how they liked eggs.

How many preferred poached eggs?

What fraction preferred boiled eggs?

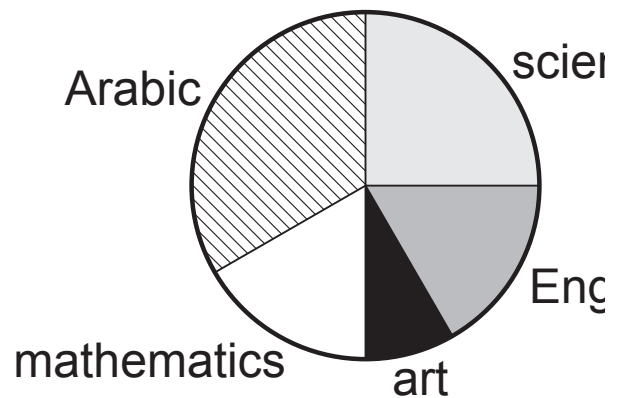


48 students chose their favourite subject. Estimate:

What fraction of them chose Arabic?

How many chose mathematics?

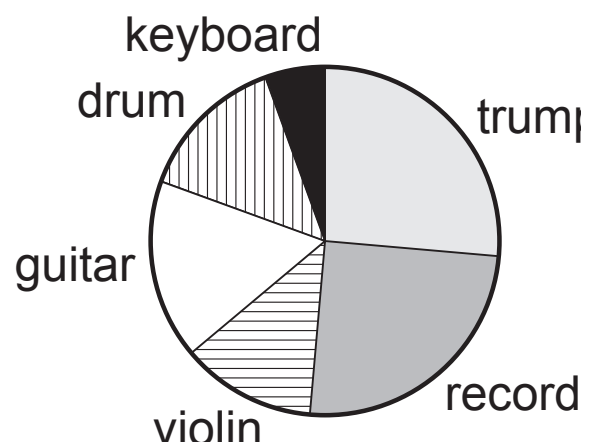
What fraction did not choose art or English?



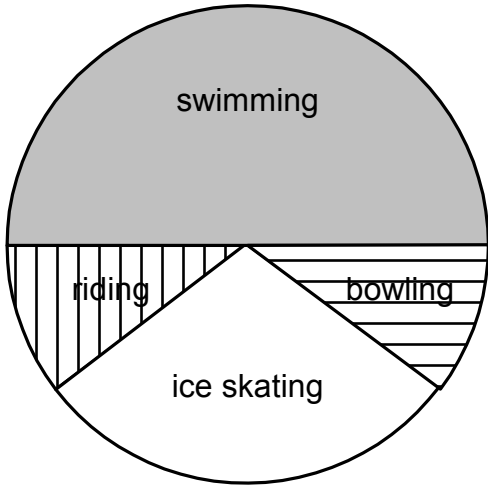
80 pupils chose a musical instrument. Estimate:

What fraction of them chose a drum?

How many chose a violin?



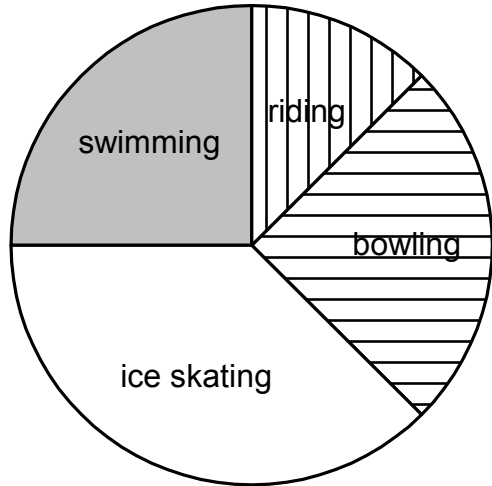
Shua's pie chart



People asked:
120

| Hobby | Number of people |
|-------------|------------------|
| swimming | |
| bowling | |
| ice skating | |
| riding | |
| TOTAL | |

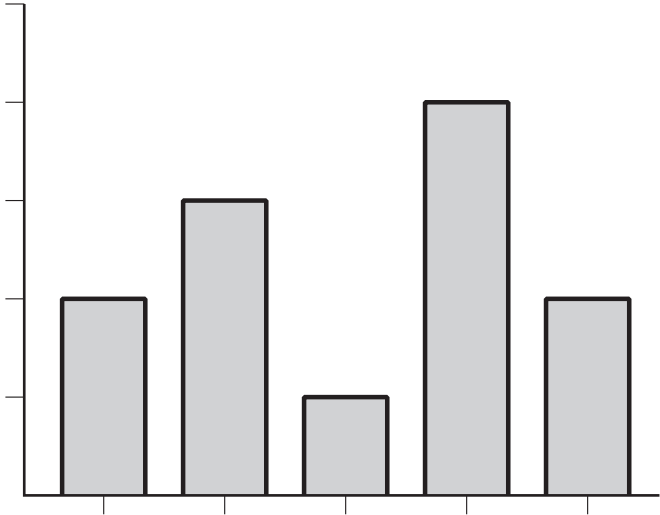
Huda's pie chart



People asked:
80

| Hobby | Number of people |
|-------------|------------------|
| swimming | |
| bowling | |
| ice skating | |
| riding | |
| TOTAL | |

Bar chart



Pie chart

