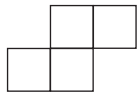


Year 6 Learning at home activity sheet

Problem 1:

How many different shapes can you make by joining together four square tiles edge to edge?

Here's one to get you started:



Problem 2:

A rectangle has an area of 24cm^2 . How long might its sides be?

How many different answers can you find?

What is the perimeter (distance around the outside) of each one?

Problem 3:

List at least three fractions between $\frac{1}{4}$ and $\frac{5}{8}$.
How many can you list?



Number facts:

Have a family member test you on the number facts from the attached sheet. They can ask you any of the sums on each card. Choose two or three that you found more difficult and practice them a few times every day, so that you can answer any of the questions quickly.



Quick questions:

1. How many millimetres are there in 4.2 metres?
2. Which is more, $\frac{2}{3}$ or $\frac{3}{5}$?
3. How many sides does an octagon have?
4. What is the largest even number with three-digits?
5. Which is more, 1.22 or 1.202?
6. How many equal length sides does an isosceles triangle have?
7. If you toss a coin five times, is it possible for it to land the same way up every time?
8. How many 50 cent coins does it take to make 10 dollars?
9. If one egg weighs 50 grams, how much does a dozen eggs weigh?
10. What is 26×6 ?



Project:

Draw a map of your bedroom. Make it as accurate as you can.

How will you make sure that things are the right sizes?



Factor challenge:

Factors are numbers that divide into another number without leaving a remainder. The factors of 6 are, 1, 2, 3, and 6.

Can you find all the factors of 210?

Clue: There are more than 10 of them!

Choose another large number and find all of its factors. Can you challenge a family member to beat you?



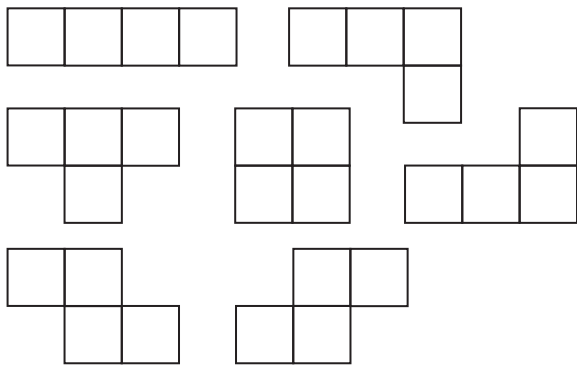
Year 6 Learning at home: Notes for parents

When your child finishes each activity, ask them to add a mouth to the face to show how they felt about that activity.

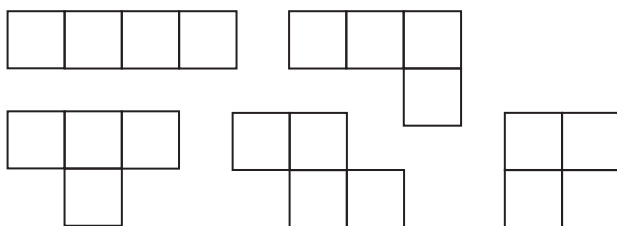


Problem 1:

There are seven different shapes you can make by joining together four square tiles edge to edge. Any other shapes can be turned around to match one of these.



If you are allowed to flip the shapes over then there are two pairs of shapes which are the same. There are then only five different shapes.



Problem 2:

If your child is unsure, remind them that the area of a rectangle can be found by multiplying its length by its width. The whole number answers to this problem are:

- 1cm x 24cm (perimeter of 50cm)
- 2cm x 12cm (perimeter of 28cm)
- 3cm x 8cm (perimeter of 22cm)
- 4cm x 6cm (perimeter of 20cm)

The problem does not say that the side lengths have to be whole numbers. It is not expected at this level, but your child may also come up with answers that involve fractions or decimals, such as:

- $1\frac{1}{2}$ cm x 16cm (perimeter of 35cm)
- 0.5cm x 48cm (perimeter of 97cm)

Problem 3:

There are very many fractions that work. To see some of these, first recall that $\frac{1}{4} = \frac{2}{8}$. So we are looking for a fraction between $\frac{2}{8}$ and $\frac{5}{8}$. $\frac{3}{8}$ or $\frac{4}{8}$ will do.

On the other hand, $\frac{1}{4} = \frac{4}{16}$ and $\frac{5}{8} = \frac{10}{16}$, so $\frac{5}{16}$, $\frac{6}{16}$, $\frac{7}{16}$, $\frac{8}{16}$ and $\frac{9}{16}$ will work too.

You can also find equivalent fractions for some of those already listed. $\frac{8}{16} = \frac{4}{8} = \frac{1}{2} = \frac{12}{24} = \dots$

Factor challenge:

The factors of 210 are: 1, 2, 3, 5, 6, 7, 10, 14, 15, 21, 30, 35, 42, 70, 105, and 210.

Quick questions:

1. 4,200
2. $\frac{2}{3}$
3. 8
4. 998
5. 1.22
6. 2
7. Yes
8. 20
9. 600 grams
10. 156

$3 \times 4 = 12$ $4 \times 3 = 12$ $12 \div 4 = 3$ $12 \div 3 = 4$	$3 \times 6 = 18$ $6 \times 3 = 18$ $18 \div 6 = 3$ $18 \div 3 = 6$
$3 \times 7 = 21$ $7 \times 3 = 21$ $21 \div 7 = 3$ $21 \div 3 = 7$	$3 \times 8 = 24$ $8 \times 3 = 24$ $24 \div 8 = 3$ $24 \div 3 = 8$
$3 \times 9 = 27$ $9 \times 3 = 27$ $27 \div 9 = 3$ $27 \div 3 = 9$	$4 \times 4 = 16$ $16 \div 4 = 4$
$6 \times 6 = 36$ $36 \div 6 = 6$	$7 \times 7 = 49$ $49 \div 7 = 7$
$8 \times 8 = 64$ $64 \div 8 = 8$	$9 \times 9 = 81$ $81 \div 9 = 9$

$4 \times 6 = 24$ $6 \times 4 = 24$ $24 \div 6 = 4$ $24 \div 4 = 6$	$4 \times 7 = 28$ $7 \times 4 = 28$ $28 \div 7 = 4$ $28 \div 4 = 7$
$4 \times 8 = 32$ $8 \times 4 = 32$ $32 \div 8 = 4$ $32 \div 4 = 8$	$4 \times 9 = 36$ $9 \times 4 = 36$ $36 \div 9 = 4$ $36 \div 4 = 9$
$6 \times 7 = 42$ $7 \times 6 = 42$ $42 \div 7 = 6$ $42 \div 6 = 7$	$6 \times 7 = 42$ $7 \times 6 = 42$ $42 \div 7 = 6$ $42 \div 6 = 7$
$6 \times 8 = 48$ $8 \times 6 = 48$ $48 \div 8 = 6$ $48 \div 6 = 8$	$6 \times 9 = 54$ $9 \times 6 = 54$ $54 \div 9 = 6$ $54 \div 6 = 9$
$7 \times 8 = 56$ $8 \times 7 = 56$ $56 \div 8 = 7$ $56 \div 7 = 8$	$7 \times 9 = 63$ $9 \times 7 = 63$ $63 \div 9 = 7$ $63 \div 7 = 9$