One

Two

Rich Learning Tasks

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Number Line Spacing

There are 4 numbers on a number line. They are labelled A, B, C, and D.
All the numbers are greater than 50.

B and C are twice as far apart as A and B.

C and D are four times as far apart as B and C.

a) List 5 possible combinations for the numbers that A, B, C, and D could be.
What do you notice about how far apart A and D are?

b) What values do A, B, and C have if D is 100?

Leftovers

You have some counters.

You put them into groups of 3, and there is 1 counter left over.

If you put THE SAME counters into groups of 4, there are 3 counters left over.

a) How many counters could you have?

b) How many different ways can you find to do this?

c) How many counters might you have had if the total number of counters was more than 50?

List as many possibilities as you can.

Adding with Blocks

You add a 4-digit number you can represent with 20 Dienes base-ten blocks to a 3-digit number you can represent with 15 blocks.

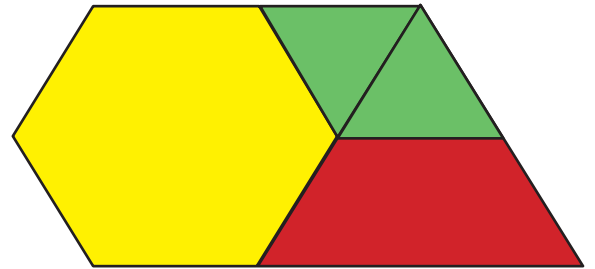Represent the answer with 17 blocks.

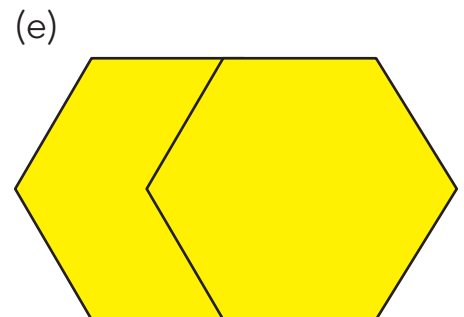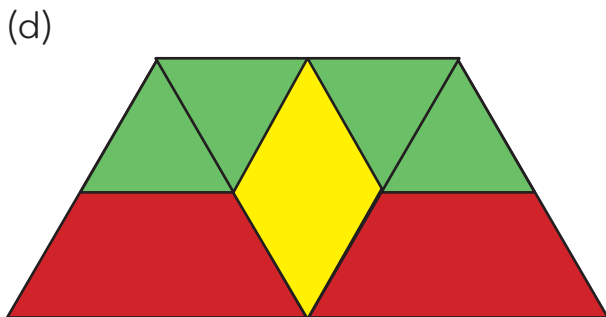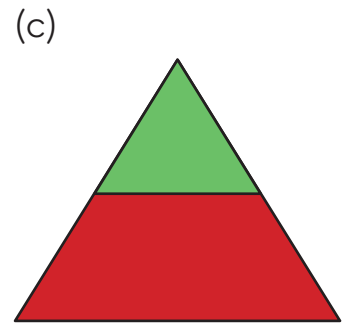What could the numbers you added be?

List lots of possibilities.

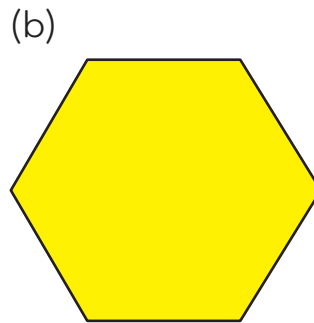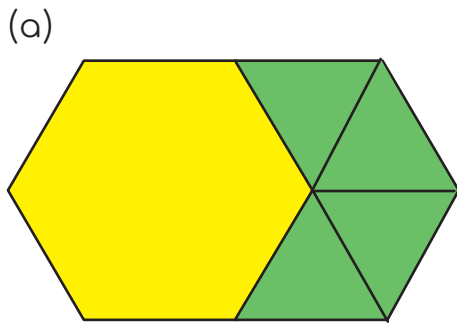# Mirror, Mirror

Where could you put a mirror on this design to see each of the designs or shapes shown below?

What other shapes or designs can you see by putting the mirror at other places on the original design?

(a)
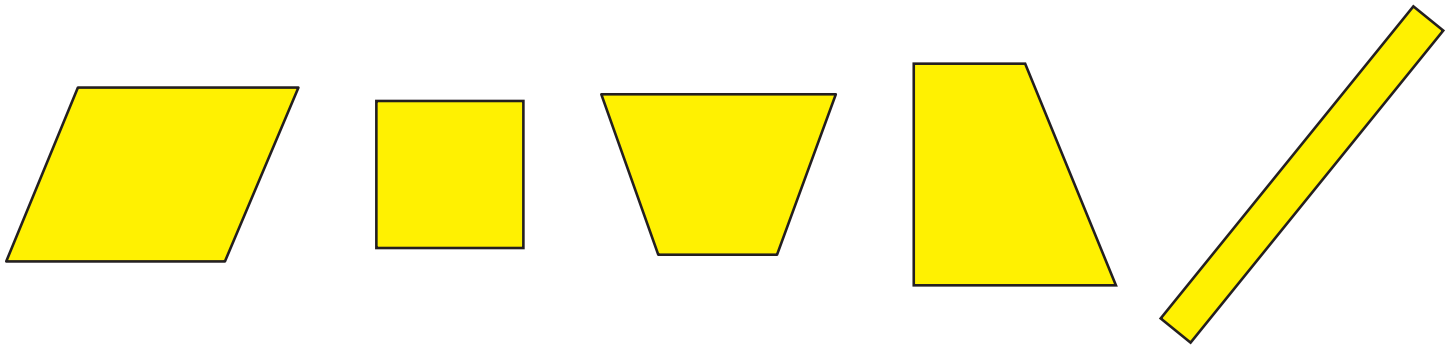
(b)

(c)

(d)

(e)

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Mathletics

Quadrilaterals

Choose one of the yellow shapes and think carefully about its properties.

Draw a shape that is ALMOST, but not quite, the same as the shape you have chosen. You cannot change the colour. What could you change? Think about length of sides, number of sides, angles, symmetry etc.

Explain why your shape is not quite the same, but almost the same, as the original including information about your new shape's properties.

Repeat for a different yellow shape. Try to use different ideas for each shape you draw.

Make the Shape

Build a shape that meets the following rules:

There are at least 2 pairs of parallel sides. Make the parallel sides the same colour.

There are 2 or more angles greater than a right angle. Put green dots inside the angles greater than a right angle.

There are at least 2 small angles. Put red dots inside the small angles.

Repeat with at least two more shapes, each with a different number of sides.

Related Areas

The area of a right triangle (a half-rectangle) is 6 times as much as the area of a rectangle. What could the height and width of the triangle and length and width of the rectangle be?

Create more correct answers if you can.

Partial Perimeters

Draw three different rectangles. Choose lengths and widths to make each of these things happen in one of the rectangles.

If you cut the area in half, you lose $\dfrac{1}{3}$ of the perimeter.

If you cut the area in half, you lose $\dfrac{1}{4}$ of the perimeter.

If you cut the area in half, you lose $\dfrac{1}{5}$ of the perimeter.

Try to come up with several possible lengths and widths for each situation.

Pour and Repour

You have a range of small containers which each hold the same fraction of a litre of juice.

When you pour all the juice into one or more big containers, it adds up exactly to a whole number of litres of juice.

How many small containers do you have, and what fraction of a litre might there be in each?

Come up with lots of possibilities.

We Balance!

If these scales balance and the masses are whole numbers of kilograms, how heavy are boxes A, B, and C?

Get lots of possibilities.