



Rich Learning Tasks

Dr. Marian Small



Problem Solving and Reasoning

Name:

Number

Dogs and Cats

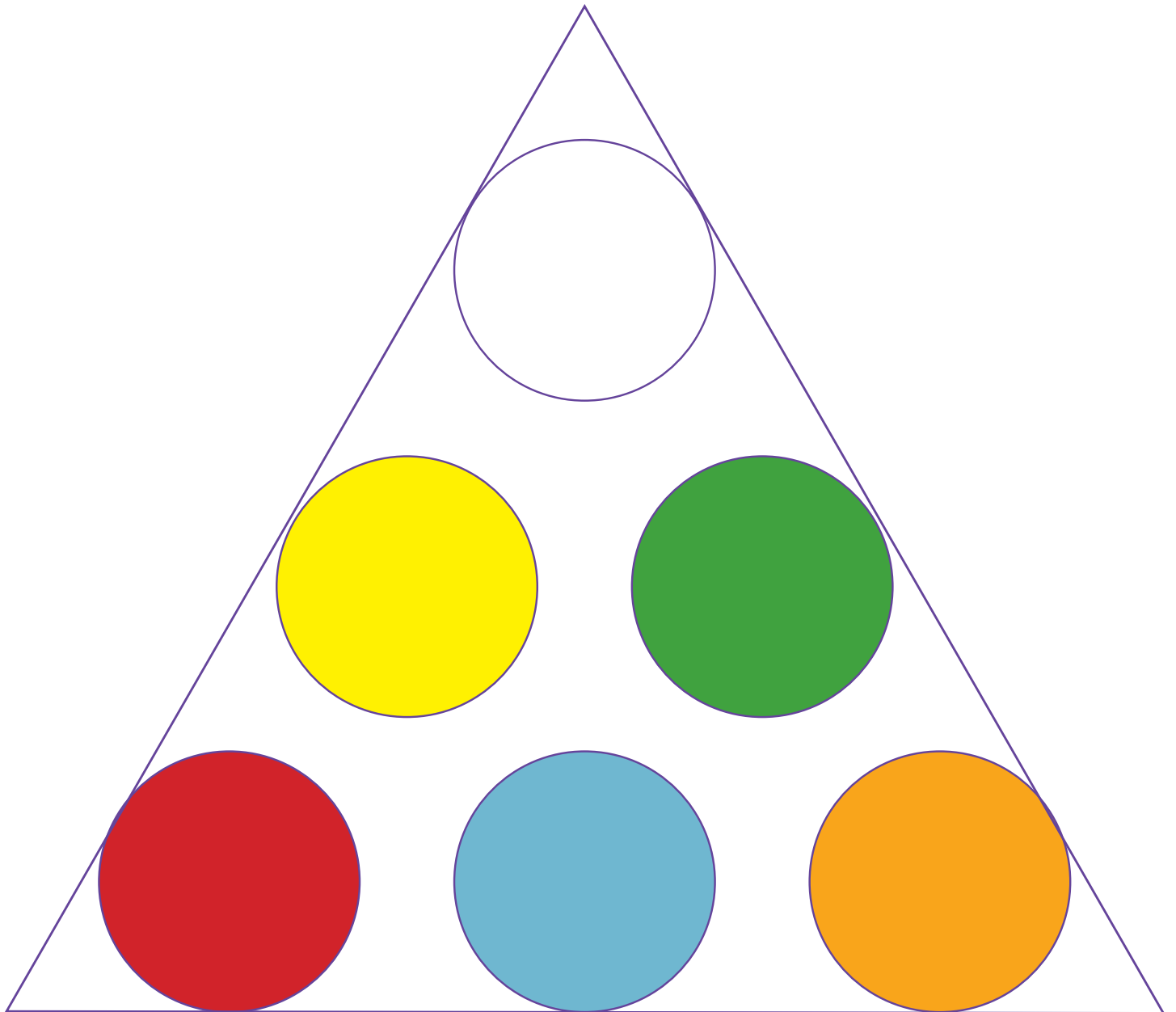
There are some dogs and some cats. There are 4 more dogs than cats. There is an odd number of cats.

- How many animals could there be?
- How many animals could there not be?

Six Circles

Arrange dots in the circles so that there are the same total number of dots on each side of the triangle, but not the same number in every circle on that side.

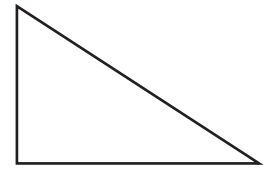
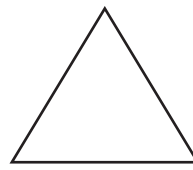
- How many dots are there on each side of the triangle?
- Try to find several solutions.



Name: _____

Four Shapes

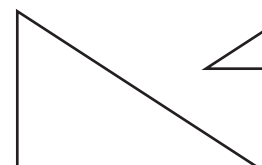
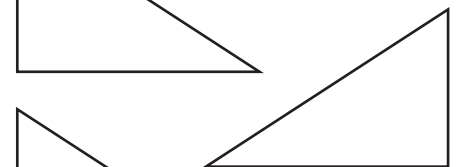
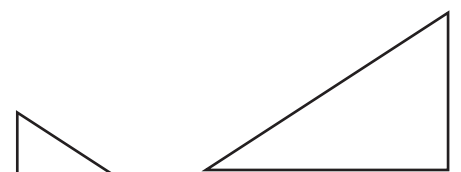
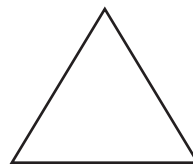
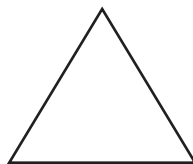
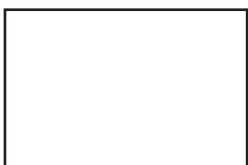
Choose one of these three shapes.



Which of the shapes in the list below do you predict that you can make if you put together 4 copies of your shape?

Explain your prediction.

- a square
- a rectangle
- a triangle
- a 6-sided shape
- a 5-sided shape
- an 8-sided shape
- a circle



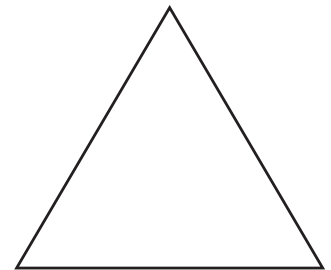
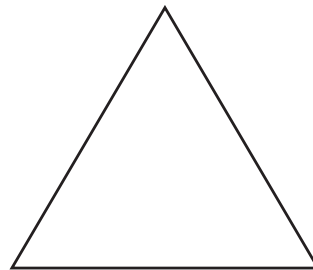
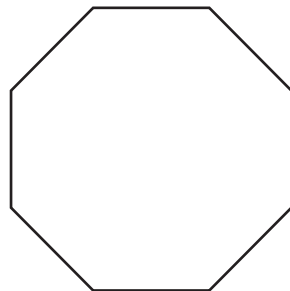
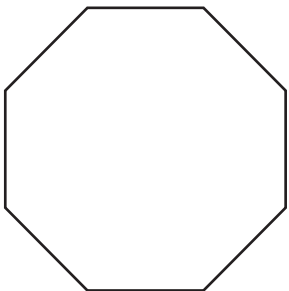
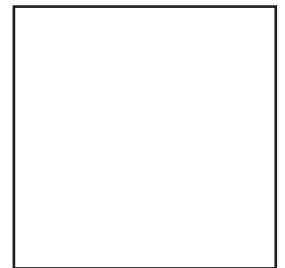
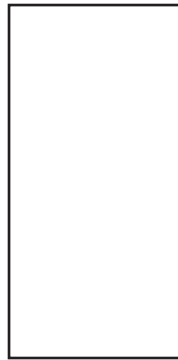
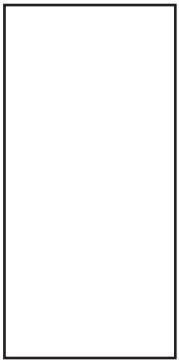
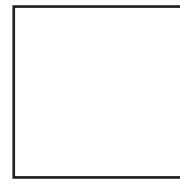
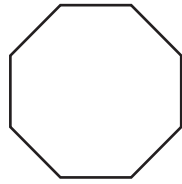
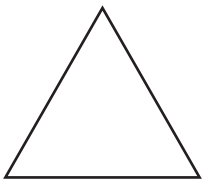
Name: _____

Share It

Choose two of these shapes.

Cut the shape into 4 equal parts in as many ways as you can.

How do you know that the parts are equal?



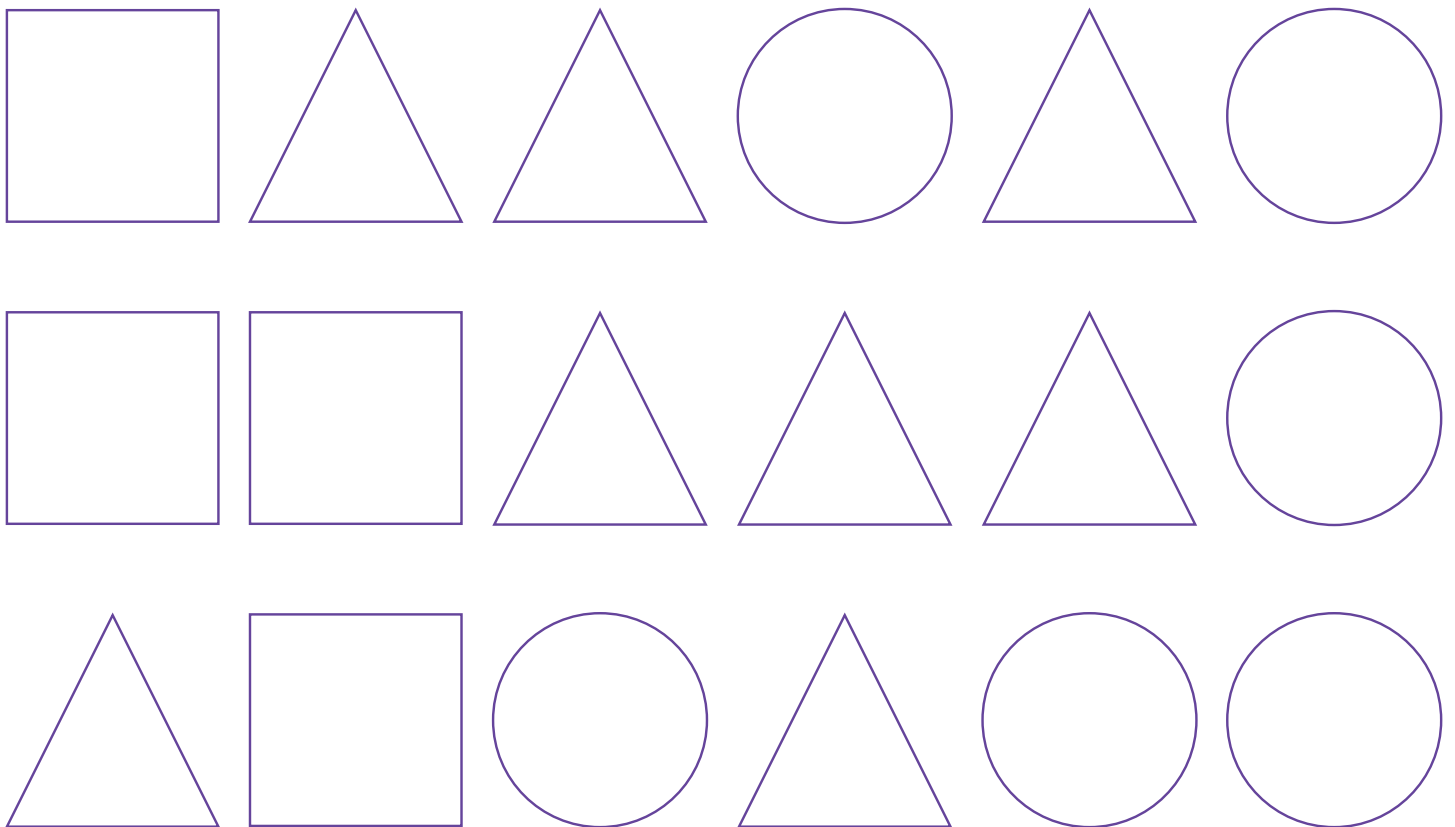
Name: _____

Yellow, Red and Blue Shapes

Colour the shapes below so that there are three times as many yellow ones than red ones, and twice as many blue ones than red ones.

How many yellow ones are coloured?

Make all the circles blue.



Name:

Data

Pizza

A pizza restaurant recorded the number of different toppings that were ordered on one evening.

Twice as many ordered pepperoni as extra cheese.

Half as many ordered mushrooms as extra cheese.

Record the number of orders that might fit in each category:

- pepperoni
- extra cheese
- mushrooms.

Record the total number of orders.

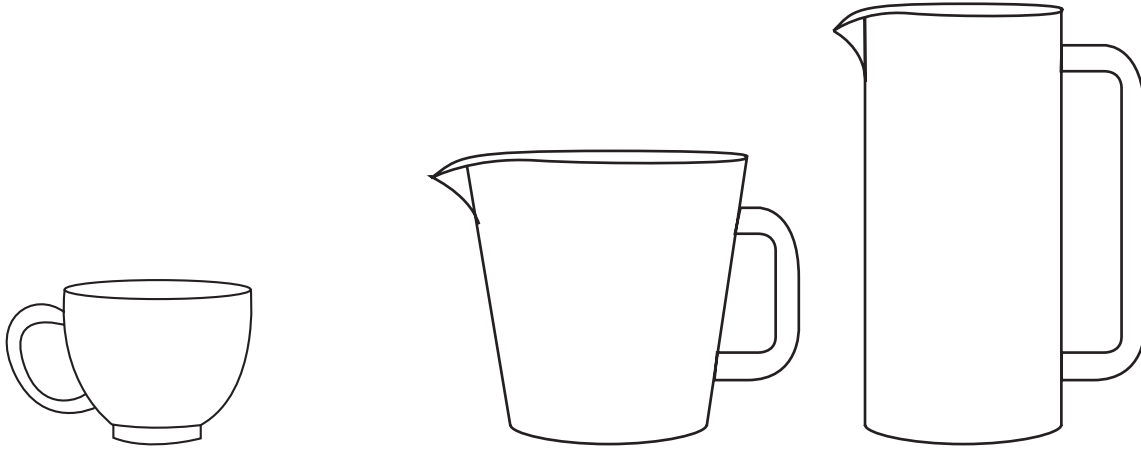
Explain your working out.

Come up with several possibilities.

Name:

Container Conundrum

You will need these three containers:



Which container do you think will hold the most? Why?

Predict how full the largest container will be if you pour a full cup into it 2 times. Check your prediction.

Then predict for 3 times, 4 times, and 5 times. Check each time.

Explain how you used what you learnt about pouring 2 times to help you with your other predictions.

Name:

Placemats

Measurement



Which placemat do you think takes up more space? Why?

Make a rectangular placemat that would take up more space than the black one, but not as much space as two of them.

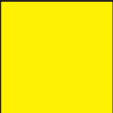

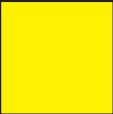



How do you know you're right?

Name: _____

Fill Me In

This is part of a pattern. What could the rest of the shapes in the pattern look like?

Try several times, making different patterns each time.

	_____	_____		_____	_____	_____	_____
	_____	_____		_____	_____	_____	_____
	_____	_____		_____	_____	_____	_____

Name:

Make It Balance

You will need:

- a balance scale
- red, yellow, blue, green and brown cubes.

One side of a balance has red and yellow cubes.

The other side has blue cubes, green cubes and brown cubes.

The two sides need to balance.

Put the cubes on the balance.

Draw a picture to show your balance scales.

Write a number sentence to describe what you did.