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PHOTOCOPY MASTERS

For 10 - 11 years

Maths Problem Solving Series

Strategies and techniques covering all strands of the curriculum, with activities to reinforce each problem solving method.

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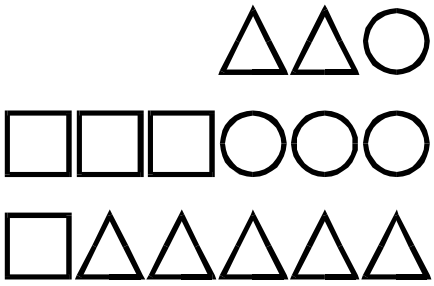
10. Your friend has written you a number code to break. It looks like this

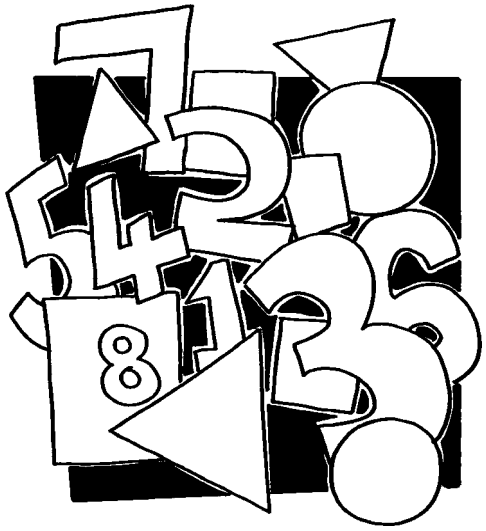


= 11

= 63

= 45

☆ How would you write 97 using your friend's code?



Strategy: Guess and Check

Strand: Chance and Data

11. Jenny has two dice. She rolled the two dice and added the two numbers showing together. How many different combinations of 2 numbers could Jenny have rolled to get an answer of 6?

Write them below:

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Strategy: Guess and Check

Strand: Chance and Data

12. Oranges cost $4.00 per kilo and apples cost $3.00 per kilo. How many kilograms of each fruit did Mrs Jackson buy if she spent a total of $18.00 on fruit and had 5 kilos of fruit altogether?

Kg	Oranges	Apples	Cost
1	$4.00	$3.00	$7.00
2	$8.00	$6.00	$14.00
3	$12.00	$9.00	$21.00

.....

Strategy: Use a Table

Strand: Number

1. Mark is going on a school camp for three days. He packs an orange shirt, a green shirt, a black and a blue pair of shorts and a grey and a red jumper. Use the table to find how many different three-piece outfits he can wear while he is on camp. (Complete the table yourself.)

Shirts	Shorts	Jumpers
e.g. orange	*blue*	*grey*

Strategy: Use a Table

Strand: Number

2. When two numbers are multiplied the answer (product) is 96 and when the two numbers are added together the answer (sum) is less than 30. Make a table to find all the possibilities for the two numbers.

1st number	2nd number	Product (x)	Sum (+)
e.g. 48	2	96	50

Strategy: Use a Table

Strand: Number

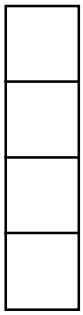
3. Jordan and Caleb are comparing their rock collections. Caleb has 8 more rocks in his collection than Jordan. There are 40 rocks altogether. How many rocks does each boy have?

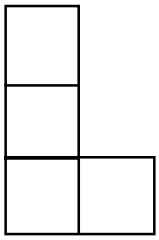
Jordan	Caleb	Total of 40 rocks

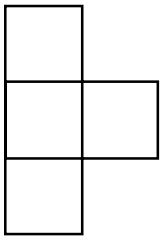
Strategy: Make a List

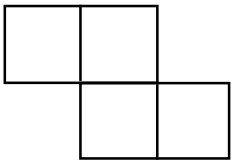
Strand: Measurement

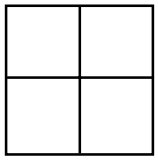
4. These shapes are each made up of four squares.

a) 

b) 

c) 

d) 

e) 

☆ List the perimeter and area of each shape.

a) .....

b) .....

c) .....

d) .....

e) .....

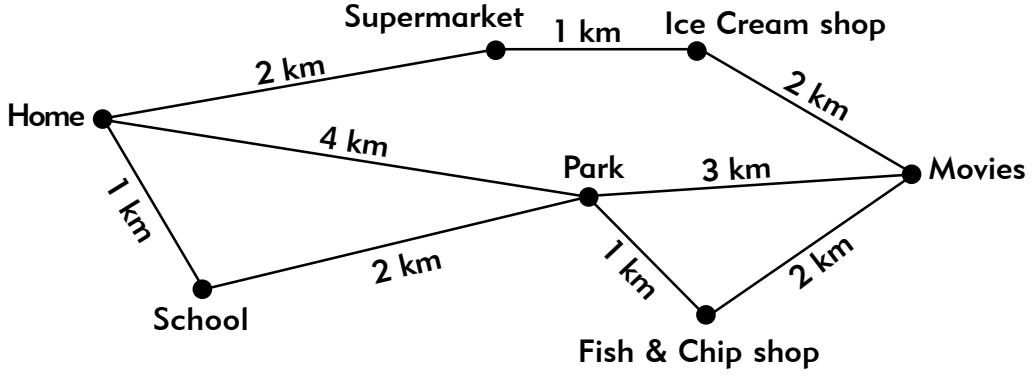
☆ Which shape or shapes have the smallest perimeter?

.....

Strategy: Make a List

Strand: Measurement

5. Melinda and Rachel are going to the movies. They are trying to decide which is the shortest way to get there. On another sheet list the different ways for Melinda and Rachel to get from their home to the movies.



☆ What is the shortest route? .....

Strategy: Find a Pattern

Strand: Number

1. Use a calculator to find the product of the following numbers:
7 x 9, 77 x 99, 777 x 999

Observe the pattern in the answers and, without a calculator, try to predict what two numbers give the product of 77 762 223.

Observe the pattern again and, without a calculator, predict the product for 77 777 x 99 999.

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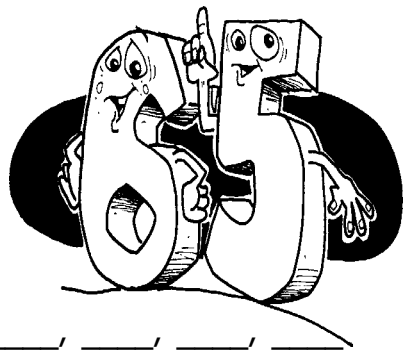
Strategy: Find a Pattern

Strand: Number

2. Find the pattern.



a) 3, 4, 7, 11, 18, 29, ____, ____, ____

b) 3, 7, 16, 32, 57, 93, ____

c) 102, 105, 111, 114, 120, 123, 129, ____, ____, ____, ____, ____

d) Make a number pattern of your own. Ask a classmate to work out the pattern.

.....

Strategy: Find a Pattern

Strand: Number

3. In each set of numbers, every set follows the same rule. Find the rule and complete the final set.

8, 4, 9 10, 5, 10 12, 6, 11 6, ____, ____

Explain the rule:

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.....

.....

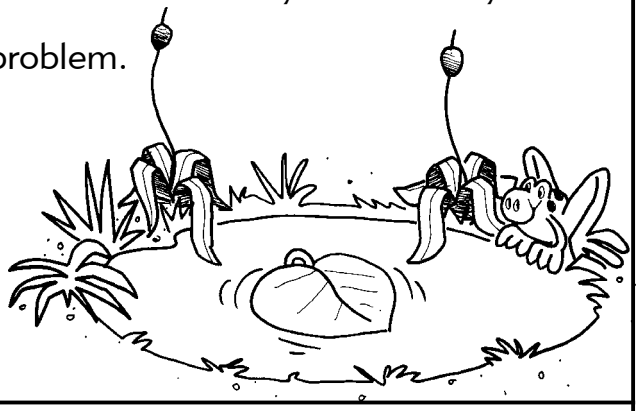
Strategy: Logical Reasoning

Strand: Number

1. In the middle of a round pond lies a water-lily. The water-lily doubles in size every day. After exactly 20 days the pond will be completely covered by the water-lily.

After how many days will half of the pond be covered by the water-lily?

Use this space to help you solve the problem.



Strategy: Logical Reasoning

Strand: Number

2. Sandra, Amanda, Melanie and Cassandra are all best friends so they buy presents for each other for their birthdays.
How many presents are bought altogether and how many presents must each person buy?

Use this space to help you solve the problem.

Strategy: Logical Reasoning

Strand: Number

3. What number am I?

I am a two digit number.
The sum of my digits is 3.
I am exactly divisible by 5 and 2.

.....

.....

What number am I?

I am a square number.
I am a two digit number.
The sum of my digits is 7.
I am divisible by 5.

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