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PHOTOCOPY MASTERS

For 9 - 12 years

Maths Problem Solving Techniques

Eight problem solving strategies and practice activities for the primary classroom.

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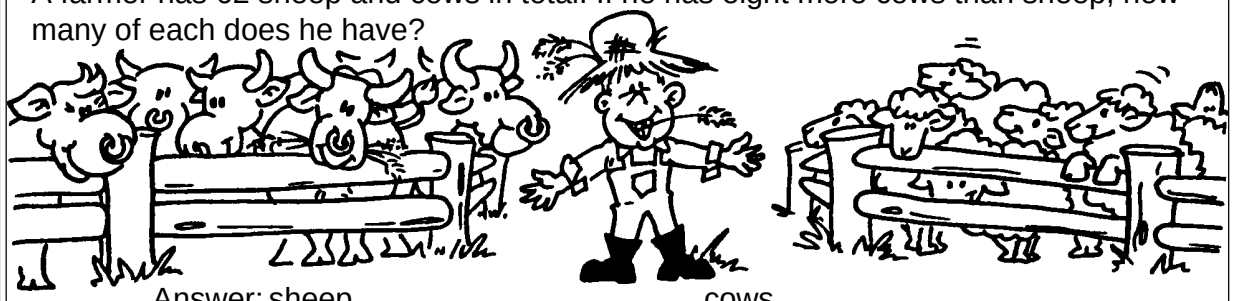
Strategy 2: Guess and Check - Practice Sheets (Two Variables)

Practice Problem 1

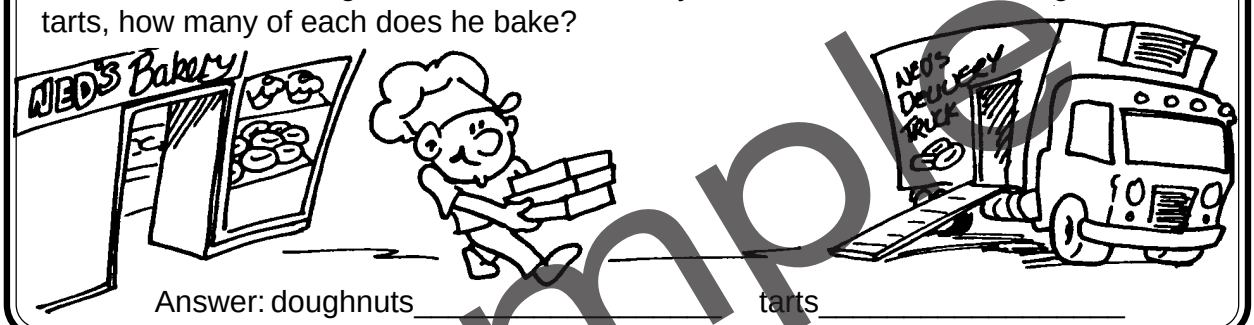
A farmer has 62 sheep and cows in total. If he has eight more cows than sheep, how many of each does he have?



Answer: sheep_____ cows_____

Practice Problem 2

A baker bakes 36 doughnuts and tarts each day. If he makes six more doughnuts than tarts, how many of each does he bake?



Answer: doughnuts_____ tarts_____

Practice Problem 3

A stamp collector collects French and English postage stamps. She had 212 stamps in her collection, with 62 more French than English. How many of each did she have?

Answer: French _____ English _____

Practice Problem 4

In a school of 568 students, there were 26 more girls than boys. How many boys were there?

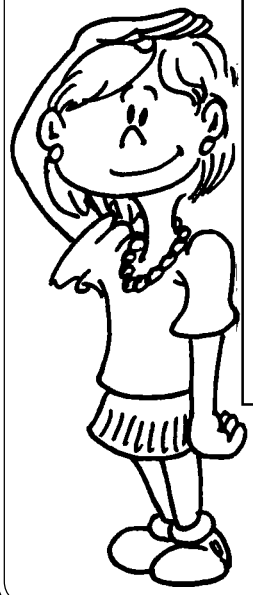
Answer: _____ boys

Strategy 3: Using a Table or Chart - Practice Sheets

Practice Problem 1

Jenny and Johnny are six and eight years old respectively. As you can see, the sum of these birthdays add up to 14. How old will Johnny be when the sum of their ages is 28?

Jenny	Johnny	Total
6 7	8	= 14



Answer: _____ years old

Practice Problem 2

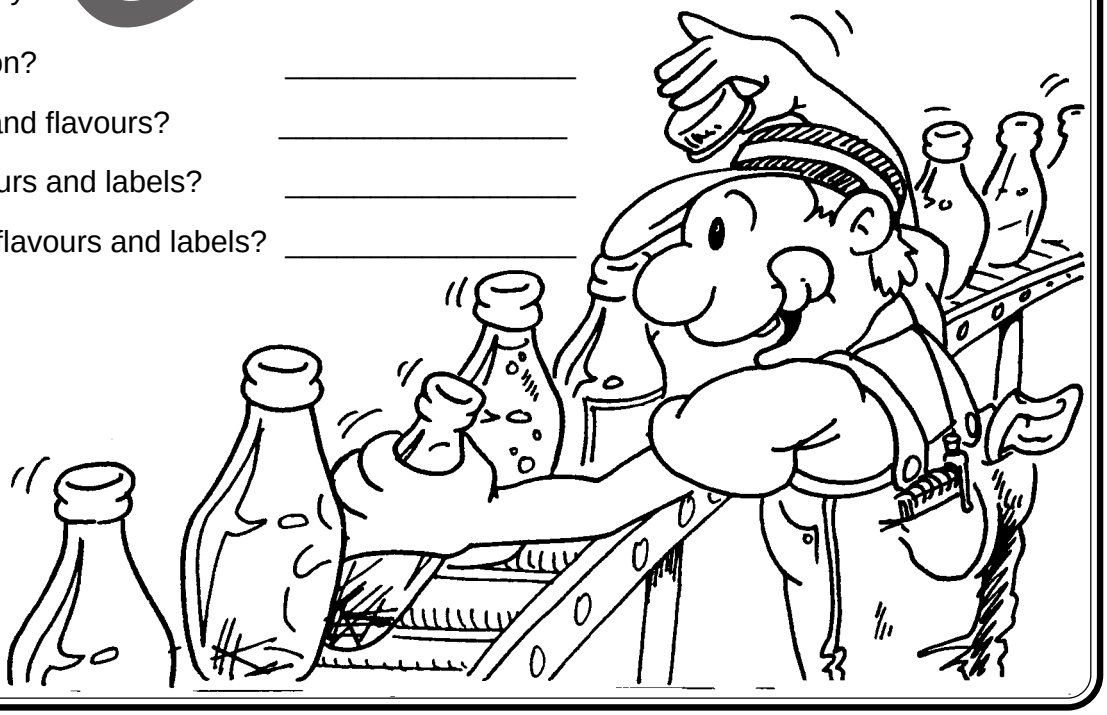
A factory worker is bored with his job, so he decides to make it more interesting while filling his 30 bottles of cordial. He decides to put the lid on every fourth bottle, the flavour in every fifth and the label on every sixth bottle. If he started at the 1st bottle, how many bottles would have:

a) Lids on? _____

b) Lids and flavours? _____

c) Flavours and labels? _____

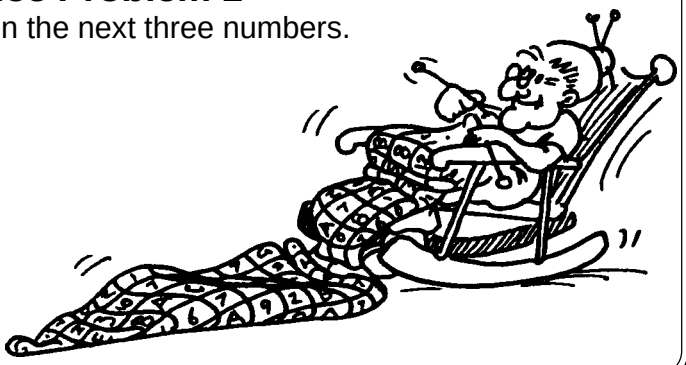
d) Lids, flavours and labels? _____



Strategy 5: Looking for a Pattern - Practice Sheets

Practice Problem 1

Study these patterns carefully and fill in the next three numbers.



▲ 1, 3, 5, 7, 9, _____, _____, _____.

▲ A, C, E, G, _____, _____, _____.

▲ 6, 10, 8, 12, _____, _____, _____.

▲ 2, 4, 7, 11, _____, _____, _____.

Practice Problem 2

Supply answers that follow these word patterns.

▲ Ant, Butterfly, Caterpillar, _____, _____, _____.

▲ John, Ken, Leon, _____, _____, _____.

▲ Denmark, Egypt, France, _____, _____, _____.

▲ Allan, Cindy, Edward, Gloria, _____, _____, _____.

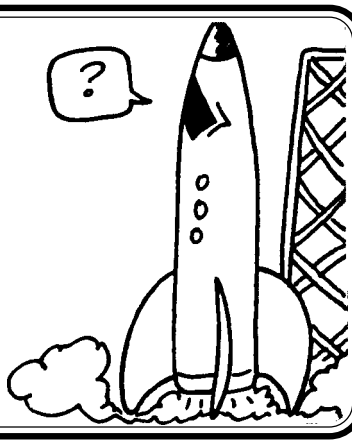
Practice Problem 3

Peter the footpath painter slowly increases the number of cement slabs he can paint each day.
On day one he paints three, on day two he paints five, on day three he paints 8, day four he paints 12 and so on.
On what day will he paint more than 32? _____

How many days will it take to paint over 150 slabs in total? _____

Practice Problem 4

Supply the next three numbers or words in these sequences.



▲ 1000, 520, 280, 160, _____, _____, _____.

▲ a, at, all, arms, _____, _____, _____.

▲ 3, 6, 11, 6, 19, _____, _____, _____.

▲ 3, 6, 4, 7, 5, _____, _____, _____.

Strategy 6: Kinaesthetic/Real Objects - Practice Sheets

Practice Problem 1

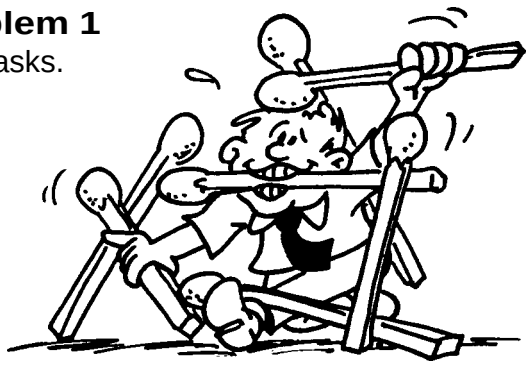
Using a set of matches, complete the following tasks.

▲ Use five matches to create two triangles.

▲ Use four matches to create three triangles.

▲ Use seven matches to make three triangles.

▲ Use seven matches to make seven triangles.

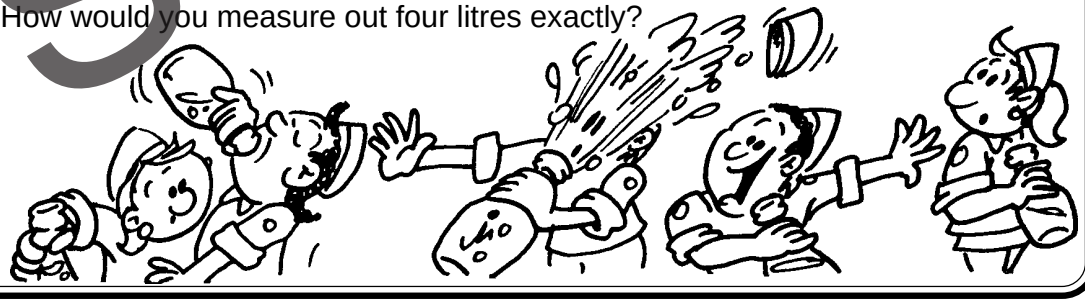


Practice Problem 2

At the Agricultural Show, six cranky bulls each had to be provided with their own yard. Unfortunately there were only twelve sections of steel fence, and these couldn't be sawn or shaped. Show how the fence could be arranged to make six separate yards.

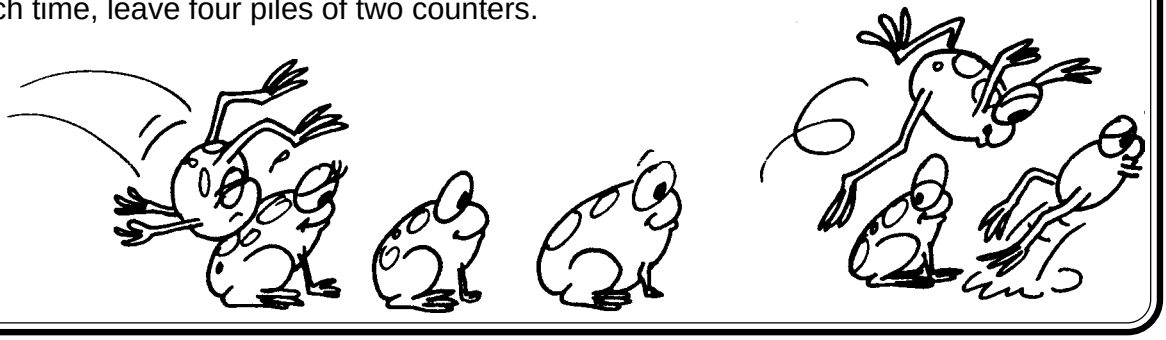
Practice Problem 3

At the soft drink factory they only had eight litre and six litre containers. Workers were allowed to drink four litres of soft drink per day, but they had to measure the four litres exactly. How would you measure out four litres exactly?



Practice Problem 4

Set out eight counters in a line. In four moves, jumping over two and only two piles each time, leave four piles of two counters.



Strategy 8: Working Backwards - Practice Problems

Practice Problem 3

If a $^1/_3$ of $^1/_2$ of $^1/_4$ of $^1/_6$ = 3, what would be the starting number? _____

Practice Problem 4

At the icecream factory the quantities of each of the six flavours are decided mathematically. The total amount of chocolate, mint and butterscotch is always half of the days production.

They produce fifteen more tubs of chocolate than mint, and fifteen more tubs of mint than butterscotch. Of the remaining icecream half is honey, with the rest being split $^1/_3 : ^2/_3$ between caramel and bubblegum. If there are fifteen tubs of caramel icecream, how many tubs of each of the other flavours are made?

chocolate _____

mint _____

butterscotch _____

caramel _____

bubblegum _____

honey _____