Day 4 Maths Starter

True or False?

A 4-digit number will always be a 4-digit number after being rounded to the nearest thousand.

White Rose Maths

Day 4 Maths Starter Answer

True or False?

False

If the thousands digit is 9 and
the hundreds digit is 5 or more,
it will round to 10,000

White Rose Maths

Problem Solving

Today is all about problem solving.

There are 10 activities to chose from.

Each activity gets progressively harder (slide 5 is more challenging than slide 4 etc)

Try and spend around 30 - 45 minutes completing some of the challenges.

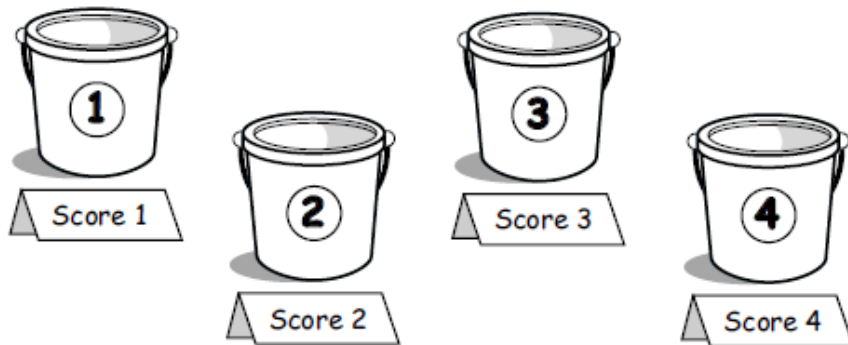You do not need to do them all, aim for around 2 or 3.

There is a *MEGA CHALLENGE* on slide 12
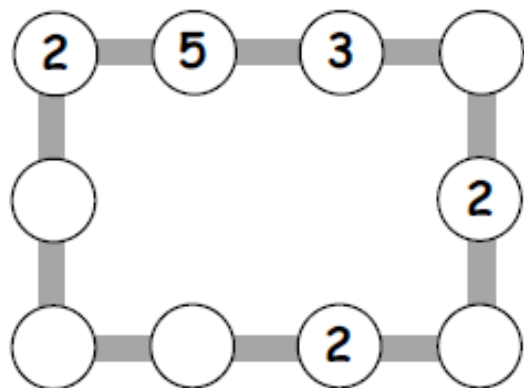
Answers on slide 14 & 15.

Bean-bag buckets

Dan threw 3 bean-bags.
Each bag went in a bucket.
More than one bag can go in a bucket.

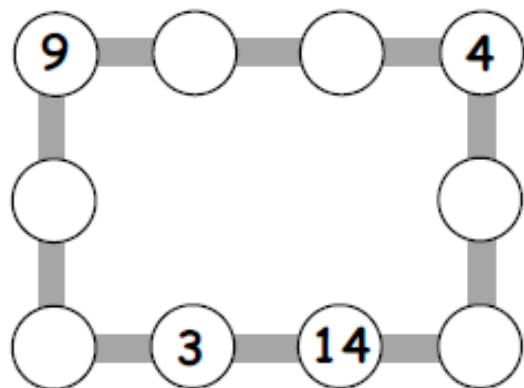Score 1
Score 2
Score 3
Score 4

1. What is the highest score Dan can get?

2. Find three ways to score 6.

3. Find three ways to score 9.

4. What other scores can Dan get?

Number lines

1. Make each line add up to 16.

```
( 2 )—( 5 )—( 3 )—(   )
  |                  |
(   )              ( 2 )
  |                  |
(   )—(   )—( 2 )—(   )
```

2. Make each line add up to 20.

```
( 9 )—(   )—(   )—( 4 )
  |                  |
(   )              (   )
  |                  |
(   )—( 3 )—( 14 )—(   )
```

3. Make up your own puzzle like this.
   Ask a friend to do it.

Spaceship

Some Tripods and Bipods flew from planet Zeno.
There were at least two of each of them.

Tripods have 3 legs.
Bipods have 2 legs.
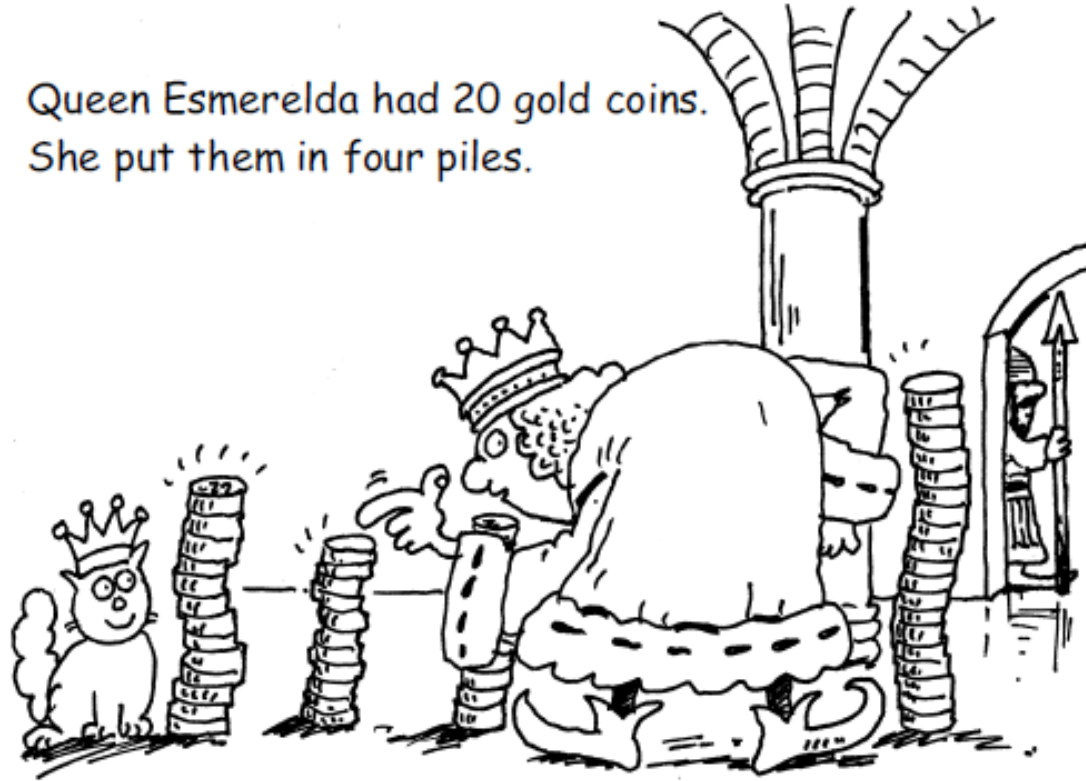There were 23 legs altogether.

How many Tripods were there?
How many Bipods?

Find two different answers.

Queen Esmerelda's coins

Queen Esmerelda had 20 gold coins.
She put them in four piles.

- ◆ The first pile had four more coins than the second.
- ◆ The second pile had one less coin than the third.
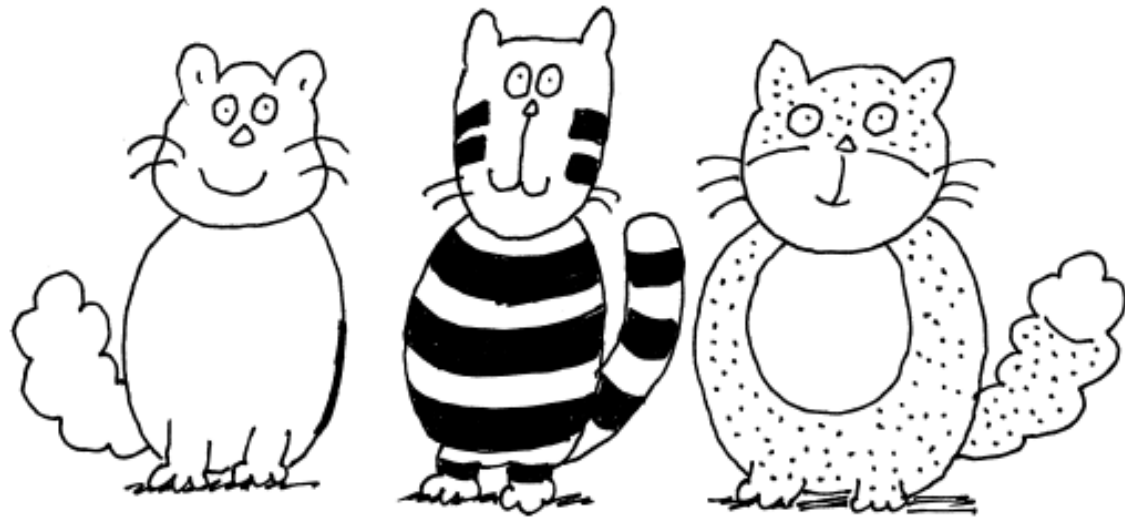- ◆ The fourth pile had twice as many coins as the second.

How many gold coins did Esmerelda put in each pile?

Kieron's cats

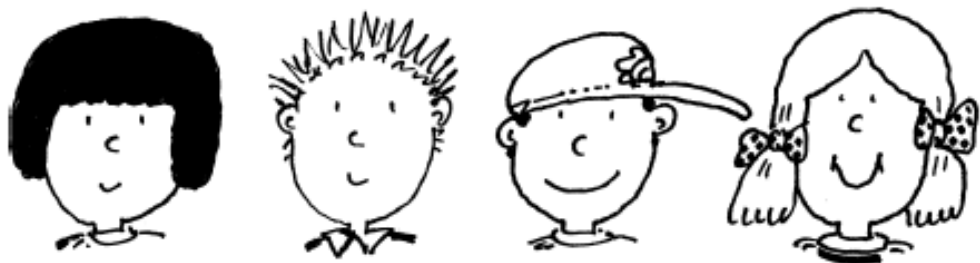Kieron has three cats.
Each is a different weight.

The first and second weigh 7 kg altogether.
The second and third weigh 8 kg altogether.
The first and third weigh 11 kg altogether.

What is the weight of each cat?

Nick-names

Dawn, Mark, Josh and Tina are friends.

They each have a nick-name.

Their nick-names are Spider, Curly, Ace and Fudgy, but not in that order.

What is the nick-name of each of the friends?

Clues

◆ Josh plays tennis with Curly and goes swimming with Ace.

◆ Tina has been on holiday with Curly but travels to school with Fudgy.

◆ Spider, Curly and Dawn play in the football team.

◆ Spider sometimes goes to tea with Josh.

Make five numbers

Take ten cards numbered 0 to 9.
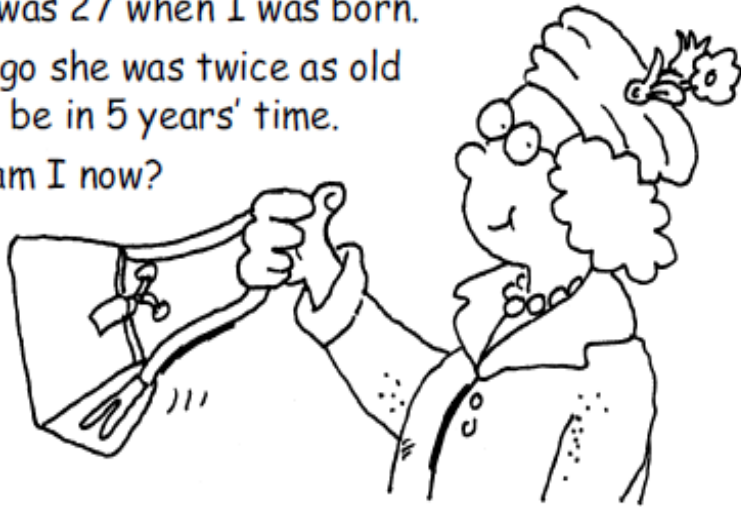

Each time use all ten cards.

Arrange the cards to make:

a. five numbers that are multiples of 3

b. five numbers that are multiples of 7

c. five prime numbers

Make up more problems to use all ten cards
to make five special numbers.
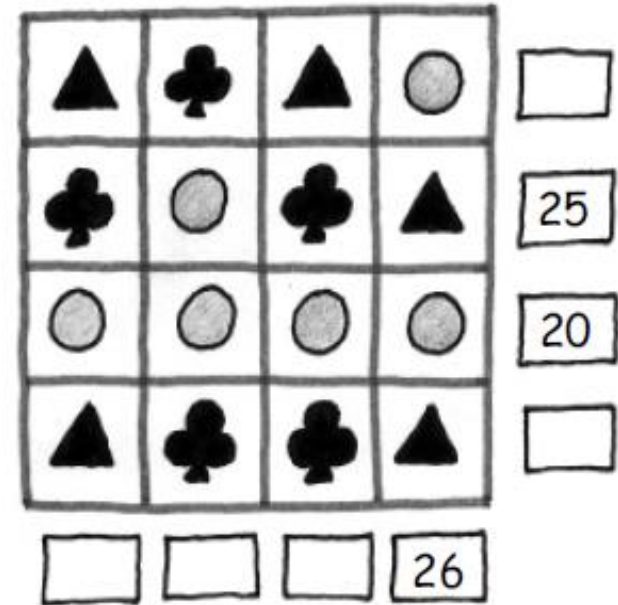
Age old problems

1. My age this year is a multiple of 8.
   Next year it will be a multiple of 7.
   How old am I?

2. Last year my age was a square number.
   Next year it will be a cube number.
   How old am I?
   How long must I wait until my age is both
   a square number and a cube?

3. My Mum was 27 when I was born.
   8 years ago she was twice as old
   as I shall be in 5 years' time.
   How old am I now?

Shape puzzle

Each shape stands for a number.

The numbers shown are the totals of the line of four numbers in the row or column.

Find the remaining totals.

Mega Challenge...

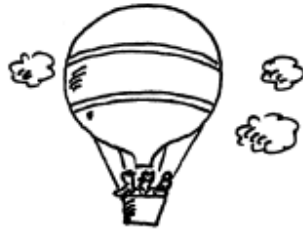## Slick Jim

Slick Jim won the lottery.

He spent two thirds of his winnings on a very posh house.

He spent two thirds of what he had left on a luxury yacht.

Then he spent two thirds of what he had left on a hot air balloon.

He spent his last £20000 on a flashy car.

How much did Slick Jim win on the lottery?

Clue on the next slide if you are *really* stuck...
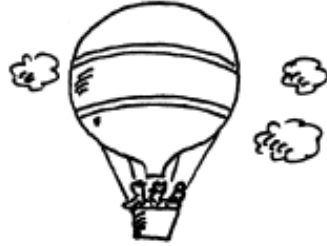
Slick Jim

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He spent his last £20000 on a flashy car.

How much did Slick Jim win on the lottery?

This should be your starting point…

Think about what fraction the £20,000 is worth having already spent the other amounts.
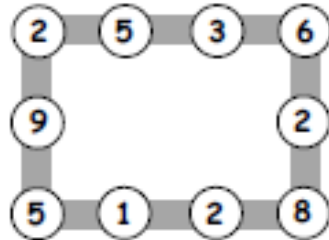
Good luck! ☺

Solutions

5 Bean-bag buckets

1. The highest score is 12 (3 bags in 4).

2. Score 6 in three ways:
   1 bag in 4 and 2 bags in 1, or
   1 bag in 1, 1 bag in 2 and 1 bag in 3, or
   3 bags in 2.

3. Score 9 in three ways:
   1 bag in 1 and 2 bags in 4, or
   1 bag in 2, 1 bag in 3, 1 bag in 4, or
   3 bags in 3.

4. Besides 6, 9 and 12, other possible scores are:

   3:    3 bags in 1

   4:    2 bags in 1, 1 bag in 2

   5:    2 bags in 1, 1 bag in 3, or
   1 bag in 1, 2 bags in 2

   7:    1 bag in 1, 2 bags in 3, or
   2 bags in 2, 1 bag in 3, or
   1 bag in 1, 1 bag in 2, 1 bag in 4

   8:    2 bags in 2, 1 bag in 4, or
   1 bag in 2, 2 bags in 3, or
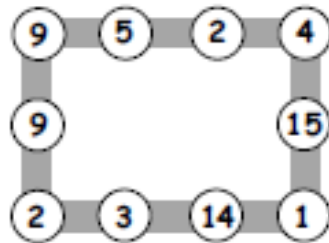   1 bag in 1, 1 bag in 3, 1 bag in 4

   10:   1 bag in 2, 2 bags in 4

11 Number lines

1. For example:

   2 — 5 — 3 — 6
   9 — ... — 2
   5 — 1 — 2 — 8

   Other solutions are possib[le]

2. For example:

   9 — 5 — 2 — 4
   9 — ... — 15
   2 — 3 — 14 — 1

29 Spaceship

3 Tripods (9 legs) and 7 Bipods (14 legs), or
5 Tripods (15 legs) and 4 Bipods (8 legs).

34 Queen Esmeralda's coins

There were 7, 3, 4 and 6 coins in each pile.

The problem can be solved by trial and error.

39 Kieron's cats

Kieron's cats weigh 5 kg, 2 kg and 6 kg.

Solutions

41 Nick-names

Dawn is Ace.
Mark is Curly.
Josh is Fudgy.
Tina is Spider.

61 Make five numbers

For example:
a.   12, 39, 45, 60, 78.
b.   7, 42, 63, 98, 105.
c.   5, 23, 67, 89, 401.
There are other solutions.

65 Age old problems

1.   I am 48 years old (or possibly 104).
2.   I am now 26 years old. In 38 years' time, when I am 64, my age will be both a square number and a cube.
3.   I am 9 years old now.

72 Shape puzzle

The circle has the value 5.
The triangle has the value 8.
The club has the value 6.

76 Slick Jim

Jim won £540 000.