E-book Code: REAU0046

Ready-Ed Publications

PHOTOCOPY MASTERS

Mathematical Reasoning

MIDDLE PRIMARY

MathsZone

OUTCOME LINKED

Presents a variety of problem solving games and challenging activities that require logic and comprehension.

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Published by Ready-Ed Publications (2005) P.O. Box 276 Greenwood Western Australia 6024
Email: info@readyed.com.au Website: www.readyed.com.au

ISBN 1 86397 636 1

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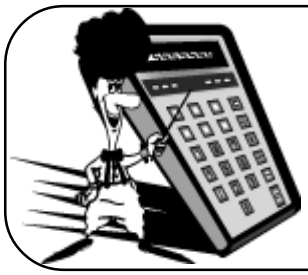
Trivia Fact Sheet 1

Name: Date:



For use with Upside-Down Calculator Discoveries

About Speed

- The white-throated swift is the fastest flying bird, flying at 152 kilometres per hour. However the Peregrine falcon when diving for prey, reaches speeds of 200 kilometres per hour.
- A cheetah runs at 76 kilometres per hour; the fastest human runs at 30 kilometres per hour; a wolf runs at 64 kilometres per hour; a cat at 20 kilometres per hour and an ostrich runs at 72 kilometres per hour.
- The fastest human can swim at 9.6 kilometres per hour while a dolphin can swim at 56 kilometres per hour.
- Rockets fly at 38,400 kilometres per hour. A rocket would take 70,000 years to reach the nearest star!
- It takes 8 minutes, 17 seconds for light to travel from the sun to the earth. The earth spins at 1,609 kilometres per hour while it is travelling through space at 107,803 kilometres per hour.
- The highest recorded train speed is 512.31 kilometres per hour by the TGV train in France.

About Mammals

- Alaskan brown bears, the largest carnivorous land animals, can weigh as much as 771 kilograms. The largest mammals are blue whales at 26 metres in length. The whales' call can be heard from 160 kilometres away. The world's tallest animals are giraffes which are 5.49 metres tall.
- The Siberian Tiger is the largest of the big cat family, weighing 300 kilograms.
- There are about 50 different kinds of kangaroos and there are over 900 different types of bats.
- Chimps can understand 300 different signs.

About Anything

- The average lead pencil can draw a line 56 kilometres long or write 50,000 English words.
- The creosote, a flowering shrub, is the oldest species on earth at 12,000 years old.
- Every second, around 100 lightning bolts strike the earth.
- At the time of publication, the world's tallest man was Robert Wadlow, standing at 2.55 metres tall. The world's tallest woman was Sandy Allen at 2.35 metres.
- The Petronas Towers in Kuala Lumpur are the tallest buildings in the world. Each of the two towers reaches a height of 452 metres. Mount Everest in Nepal is 8848 metres high.
- The driest inhabited place in the world is Aswan in Egypt where the annual average rainfall is 0.5 millimetres.
- World production of gold to date is enough to form a solid gold cube with edges 18.9 metres long.
- The deepest part of the world's oceans is the Mariana Trench in the Pacific which is 10,910 metres deep.
- The giant African land snail can grow up to 39.12 centimetres from head to tail.
- The largest dinosaur ever existing was the seismosaurus which measured 40 metres in length and weighed 80 tonnes.
- The Empire State Building in New York contains 6,500 windows.

About Science

- Inventions: The thermometer was invented in 1607 by Galileo. Englishman Roger Bacon invented the magnifying glass in 1250. Alfred Nobel invented dynamite in 1866. The first bicycle was manufactured in 1817.
- The temperature at the centre of the earth is estimated to be 5500° C. It takes the earth exactly 365.24219 days to orbit the sun. The moon is 400 times closer to the earth than the sun and exactly 400 times smaller.
- On a dark, clear night you can see approximately 2,500 individual stars.

Trivia Activity 1

Name: Date:

Upside-Down Calculator Discoveries

For this exercise use Trivia Fact Sheet 1.

Use a calculator to compute the equations and turn it upside down to find the answers to the cryptic clues.

1. **Green says it best and without saying a word.** _____
   [(The number of days it takes the earth to orbit the sun – 365.2421) x 10000**]**
2. **If they don't crack-up they grow up to cluck-up.** _____
   [Add together when the thermometer, magnifying glass and dynamite were invented + 1270**]**
3. **Which busy worker is so romantic that she loves flowers?** _____
   [(A quarter of the height of the world's tallest buildings) + (A third of the number of different bats) – 75**]**
4. **Which animal is so greedy that it tries to keep it all to itself?** _____
   [(The speed of a cheetah x 12) – (The wolf's fastest speed ÷ 8)**]**
5. **Which letters are lifesavers as well as symmetrical?** _____
   [(The number of individual stars you could see on a clear dark night ÷ 5) + a tenth of the number of different kangaroos**]**
6. **This lion is in leotards?** _____
   [The mass of seismosaurus – the length of the giant African land snail – 40.51**]**
7. **They will never catch up with the toes.** _____
   [(The depth of the Mariana Trench x 5) + twice the year when the magnifying glass was invented + the Peregrine falcon's diving speed + a cat's running speed + a wolf's speed**]**
8. **Gee, see the big ducks in there.** _____
   [Half of the time it would take a rocket to reach the nearest star + the number of different signs understood by chimps + the length of seismosaurus – 1**]**
9. **Is this a baby mountain or a pimple? Ask Jack. No, ask Jill.** _____
   [(The weight of the largest carnivorous land animals x 10) + (The approximate number of different kinds of kangaroos ÷ 12.5)**]**
10. **Look for yourself but it sounds like its full of fish to me.** _____
    [A third of the number of different types of bats + (A cat's speed x 1.75)**]**
11. **It seems that the ghost only half cried.** _____
    [The Aswan's annual average rainfall x 16 ÷ the number of lightning bolts to strikes the earth every second**]**
12. **Who's the boy who always has to pay?** _____
    [The estimated temperature at the earth's core + (The height of Mount Everest ÷ 4) + 6**]**
13. **What is the light of the world?** _____
    [The speed of rockets – (The speed of a cheetah x 4) – 17**]**

Go Figure 1

Name: Date:

*Each of these ten letters has a different value from **0** to **9**. The rows and columns add up as shown. The value of **four** of the letters has been given to help you so GO FIGURE!*

I	C	J	I	F	**35**
E	E	G	C	H	**11**
B	D	F	G	F	**30**
J	G	B	J	H	**18**
A	A	E	D	B	**20**
25	**17**	**24**	**23**	**25**	☺

A	
B	
C	**6**
D	
E	**1**
F	
G	**3**
H	
I	
J	**4**

G ≠ 0

Going by these values can you think of three, four and five letter words that add up to:

A ___ ___ = **9**

___ ___ ___ = **14**

___ ___ ___ = **15**

___ ___ G = **7**

___ ___ ___ ___ = **11**

___ ___ C ___ = **21**

C ___ ___ ___ = **15**

___ ___ I ___ ___ = **24**

B ___ ___ ___ ___ = **18**

CLUES:

(NOTE: THESE CLUES ARE NOT IN THE ORDER IN WHICH THE WORDS APPEAR!)

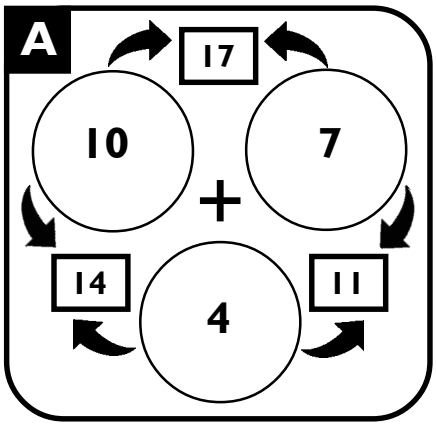
• cold stuff • way up there • the leader • terrible • a lock-up • number of years • pin it on your chest • it'll hatch • where a nose sits

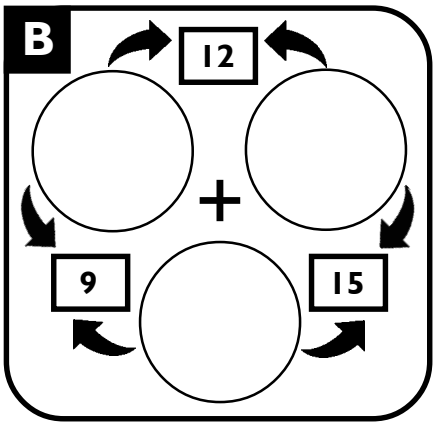
Cycle Maths 1

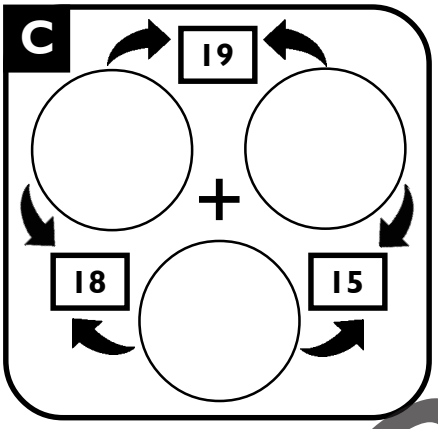
Name: Date:

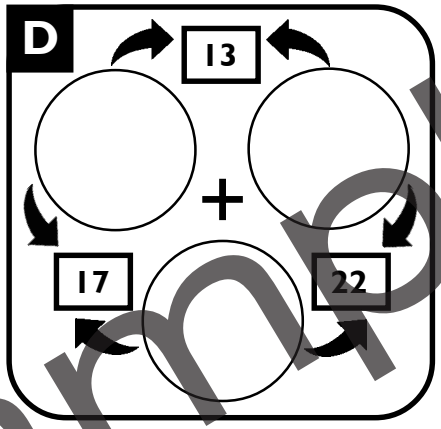
Place numbers in the circles to add up to the numbers in the rectangles between each pair of circles. The pattern cycles so that each number you place in a circle is used twice.

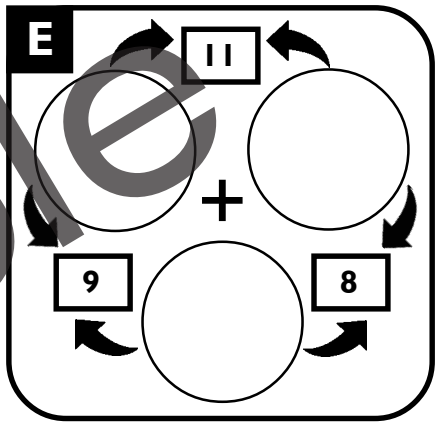
The first one is done for you.

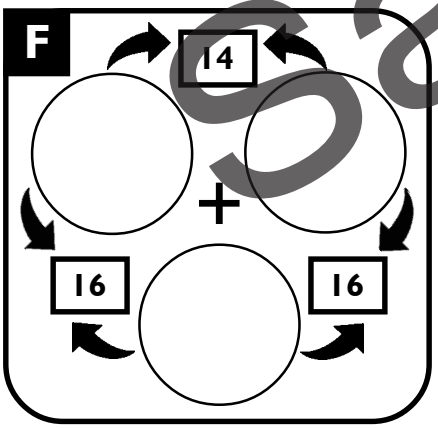


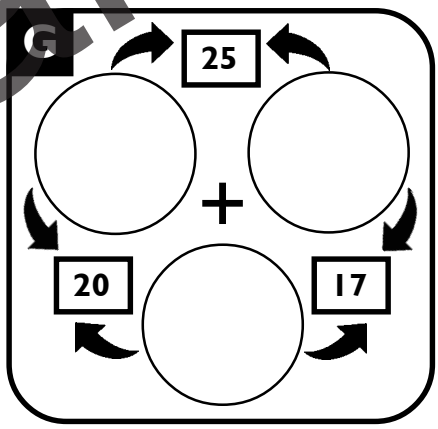


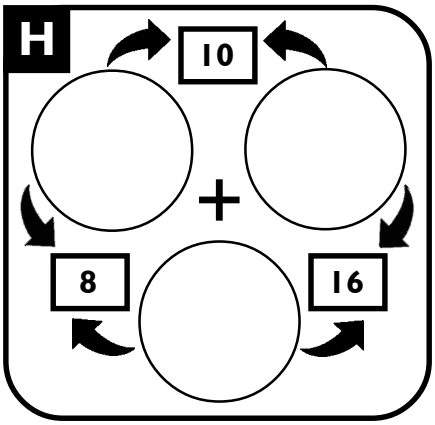


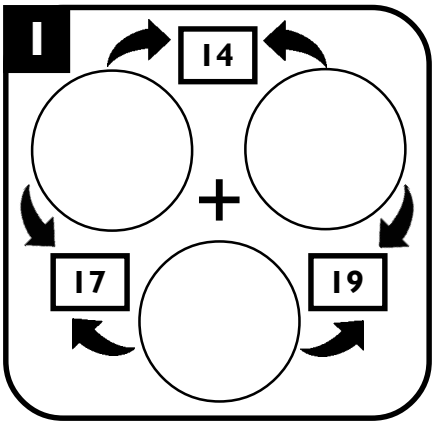


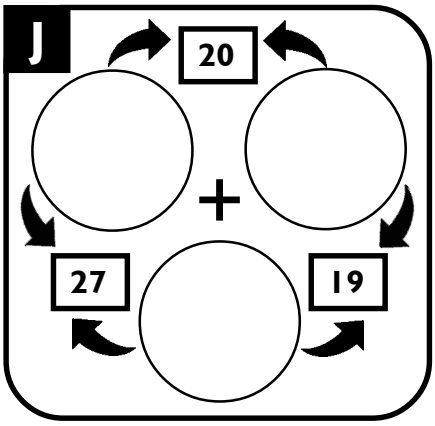


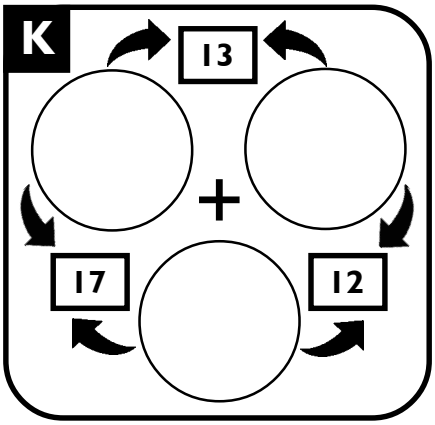












Inline Maths 1

Name: Date:

Follow the line of calculations through to the end of each line, and then work down to find the final answer. When you are finished, use a calculator to check your answers.

	+		−		÷		+		×		+	
=		=		=		=		=		=		=
5		4		27		7		8		6		6
÷		÷		−		÷		÷		−		÷
=		=		=		=		=		=		=
5		48		6		16		2		7		9
−		+		+		−		×		÷		×
=		=		=		=		=		=		=
6		4		2		23		12		17		2
+		+		×		+		+		+		−
=		=		=		=		=		=		=
4		9		5		8		7		9		3
×		÷		+		−		×		+		÷
6		36		7		15		4		16		18

= ☐

The Final Answer is ↑

Simple Venn Diagrams 1

Name: Date:

Place these simple statements in a Venn diagram and solve them. Be sure to give an appropriate title to the diagram and to label each ring.

1. Groucho had a jar with a total of twenty marbles in it. Seven of the marbles were all red and eight marbles were all blue. How many marbles were red and blue?

2. Harpo had a jar with fifty marbles in it. Twenty of the marbles were all green, fifteen of the marbles were green and yellow. How many marbles were just yellow?

3. Chico had a jar with forty marbles in it. How many marbles were black and white if eleven of them were all black and an equal number were all white?

4. How many marbles were in Groucho and Harpo's other marble jar if there were twelve marbles that were all orange, as well as four more than this number that were all brown?

5. Groucho and Chico also shared a marble jar. How many marbles were in it if it had fifteen marbles that were all pink, as well as three more than that number that were both pink and grey, and half as many as were both pink and grey, that were just grey?

6. Draw the Venn diagram of Chico and Harpo's special marble jar. It had a total of twelve marbles in it, of which ten were all or partially emerald, and nine were all or partially indigo. In that jar how many would have been all emerald, all indigo and both emerald and indigo?

7. Draw the Venn diagram of Groucho's extra special marble jar that had a total twenty-two marbles in it, of which sixteen were all or part silver and eighteen were all or part gold. How many were actually both colours?

8. Draw the Venn diagram of Harpo's super special marble jar that had a total of thirty marbles in it, of which seventeen had scarlet and twenty-one had lilac in them. How many were definitely a combination of both those colours?

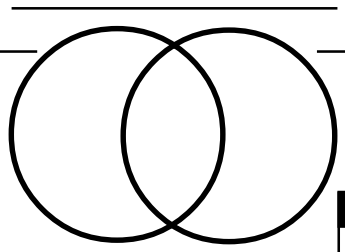
9. Draw the Venn diagram of Chico's mega special marble jar that had a total of thirty-nine marbles in it, of which twelve were both teal and turquoise coloured and fourteen were just turquoise. How many were just teal coloured?

10. The three brothers shared an extra-super-mega special marble jar which they called their extra-super-mega special blue jar. Draw the Venn Diagram of it when it had a total fifty-eight marbles in it, of which thirteen were coloured both navy blue and royal blue and the rest were either entirely navy blue or entirely royal blue and there was twice as many entirely navy blue as there were entirely royal blue.

MATHS ZONE

Venn Diagram Worksheet 3

Name: Date:

1

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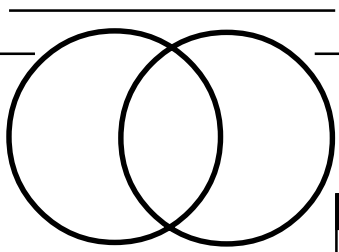
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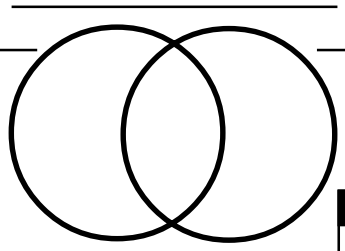
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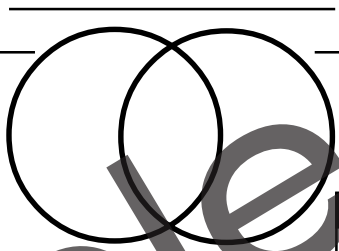
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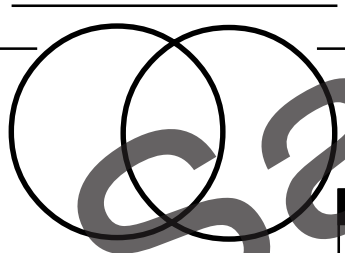
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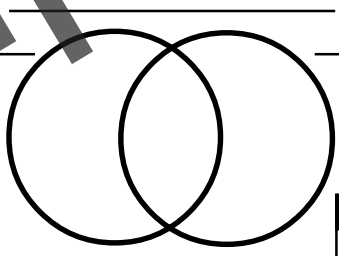
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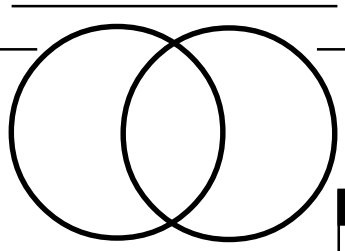
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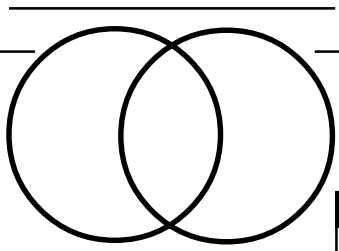
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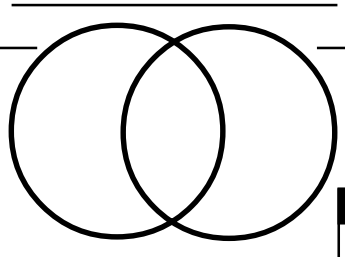
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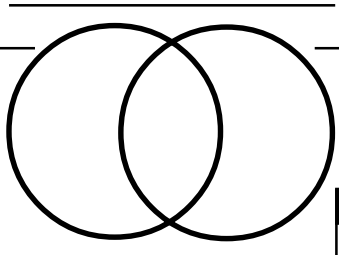
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