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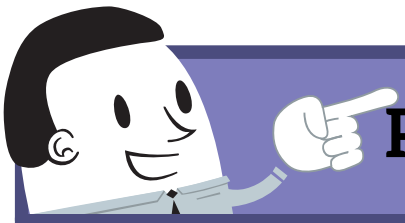
SAMPLE

esson - Calculations &
g a Calculator

Numeracy

- Calculator Competitions
- Puzzle Predicament
- Find-a-Word

Resource code: 27053818



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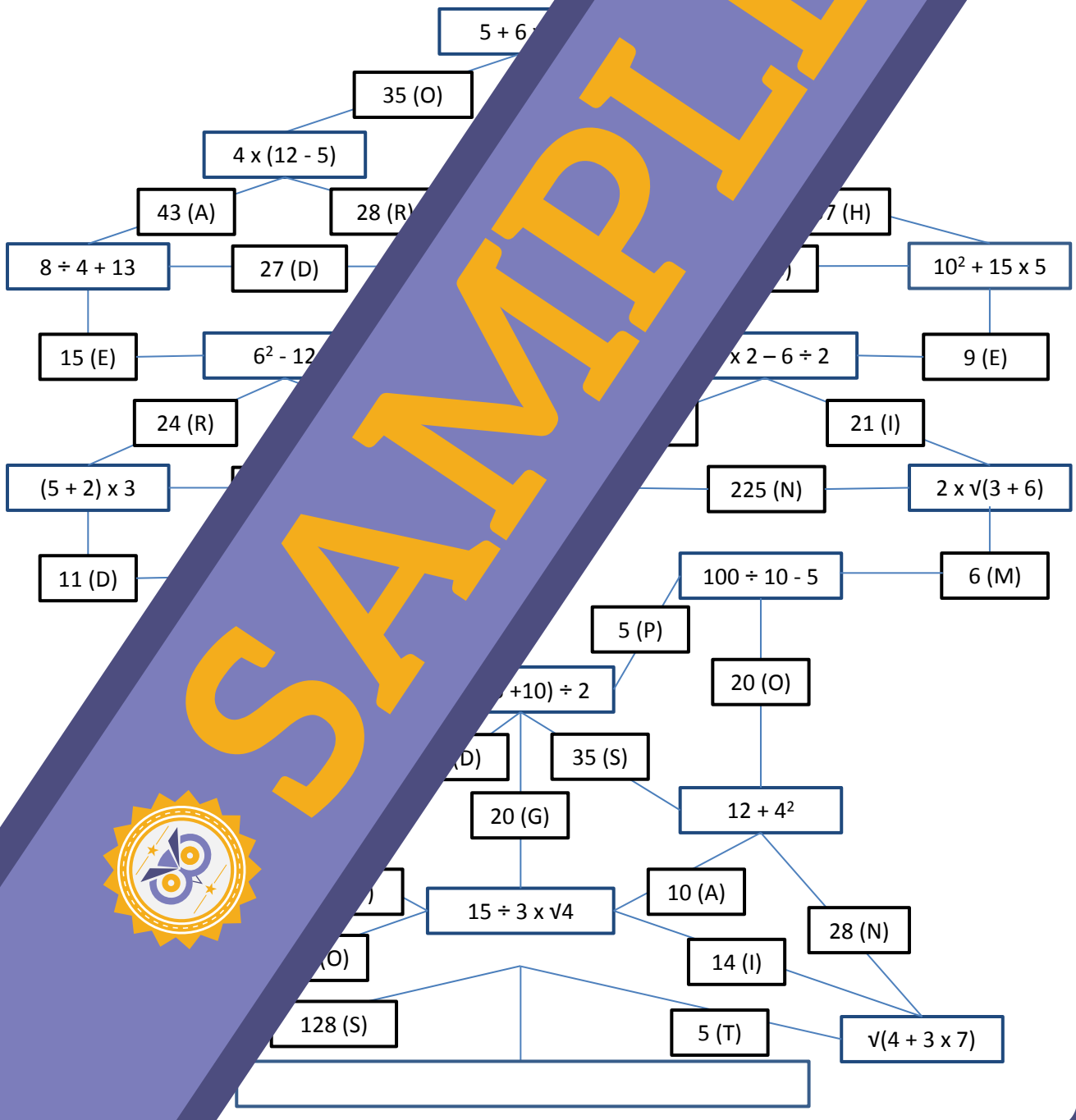

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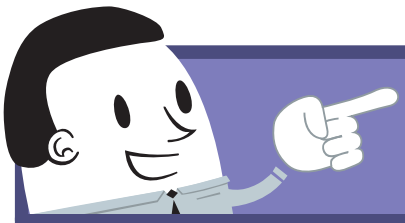

Calculator Competitions

Being able to do large calculations is important in mathe
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h) 5 x 6 x 3 =

Q2 Read the informati

The Mental Math Maste

- The teacher will h sroom, full of different calculations.
- One student v ator operator.
- The teach read it out loud.
- The ca ion as quickly as possible and yell out the answer.
- Th e while the question is being

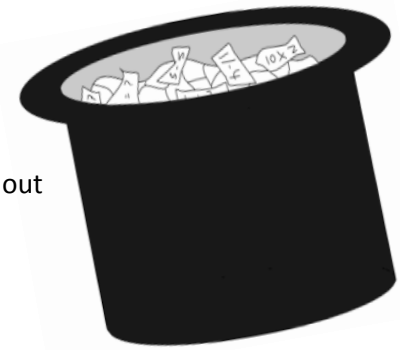
wer on his/her calculator.

ation mentally.

erator to the answer, they can yell out

ecome the new calculator operator!

r when the bucket or hat is empty is the winner.



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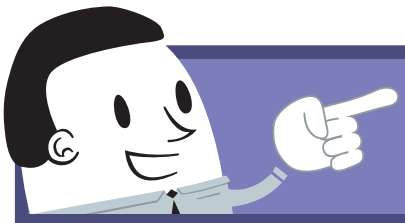

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b) 96% x 3650 =

c) $-3166 + 34^3$

d) 0.4 x 945

e) 1024 …

f) 7 x …

g) …

h) …

i) …

…) +1 =

…) x 5 =

… x 5 =

…^{2} =

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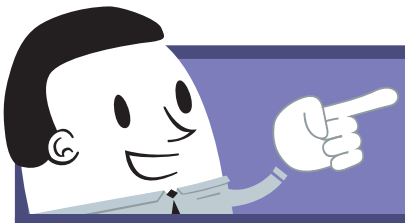

Find-a-Word

Word Search

H	G	O	B	B	L	E				
O	S	O	I	L	L					
B	L	A	L	O						
B	T	E	G	G						Z
I	O	R	S						S	E
E	E	H							L	S
S	E	O						E	E	L
B	O						H	I	G	H
U							H	I	S	S

By reading le g note of the letters that do not belong to a word in the word

Write t

— — —

— — —

— — — —

Tip

Below is a list of what letter each number represents on the calculator:

1 = I
2 = Z
3 = E
4 = H
5 = S
6 = G
7 = L
8 = B
0 = O

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Mighty Minds Lesson Inst

'Fundamentals' Lesso

Firstly, thank you for your support of Mighty Minds and our reso
quality resources that are both educational and engaging, and
works.

To assist you in using this resource, we have compiled s

About this resource

This Mighty Minds 'Fundamentals' Lesson focus ests and
presents this skill through a theme from the Au Geography).
This lesson is also targeted at a certain skill l mpleting work
that is suited to them.

How to use this resource

Our 'Fundamentals' Lessons are sp contain different types of
resources.

The student workbook contain
- The main title page; and
- The blank student work

The teacher resources
- This set of instruct
- The Teacher's C be needed to teach the lesson;
- The Item Desc e lesson and its aims, as well as extension ideas;
- The studer ponses on the student worksheets to ensure that ansv
- The te nore detailed explanation of the model responses or an
- Fin

W book (the first set of pages) for the students. If students a , you may also like to provide them with the student answer

ng us

s that if you email us with suggested changes to any lesson, we will send you the revised lesson – free of charge.

o resources@mightyminds.com.au and we'll get back to you as soon as we

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Using a Calculat

Basic Operators

There are 5 main operators that are often used when doing
They are as follows:

+ The addition sign is used to add two numbers.

– The subtraction sign is used to find the diff e number away from the other).

x The multiplication sign is used to find

÷ The division sign is used to find th

= The equals sign is used to find

For example if you wanted to find t uld use a calculator.

- The first step would be to e
- The second step would be we want to find the product of two numbers.
- The third step would b
- And the final step wo tell the calculator that you want it to calculate 12019 x
- The answer wou 52,615,342.

BIMDA

When usin r that the calculator is only as good as the person using it. I ulators are more user friendly than others. When using a calculation in the correct order and use brackets where

Fo alculation (4 + 6) x 3.

ine on most scientific calculators without using brackets the calculators follow the rules of BIMDAS and would calculate 6 x 3 ets, if used, would tell the calculator that the multiplication should and 6. Order is always important when calculating.

use brackets. Without using brackets, the above calculation could be s. Firstly, you would input 4+6 and press enter. Then using that number

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BIMDAS is an acronym that stands for brackets, indices, multiplicati
subtraction. It is used to remember the order that operations shou

This is the order that operations in a calculation should be car

Brackets	anything inside brackets should **ALWAYS**
	the brackets as a separate calculation an
Indices	after calculating brackets, anything rai s
	includes root signs.
Multiplication and **D**ivision	any division or multiplication shou culation
	reading left to right.
Addition and **S**ubtraction	any addition and subtract the calculation
	reading left to right.

Note that some students may h ast (Brackets Order Multiplication Division Additio new concept.

Other Operat

There are many othe iculator. Below is a table of some of the other operators you l use on a regular basis.

Button	Nar		Example
.		e or a fraction of a	0.5 is ten times smaller than 5
(-) or +/_		sitive number to a negative	(-) 5 = -5
%		ercentage into a decimal.	33% = 0.33
		espect the laws of BODMAS, by putting s you are telling the calculator to 'do this	18 ÷ (3+6) = 2
		to find a number raised to the power of two.	5^2 = 5 x 5 = 25
		sed to find a number raised to any power.	5^5 = 5 x 5 x 5 x 5 x 5 = 3125
	Used to find the square root of a number.		√25 = 5

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SAMPLE

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Button	Name	Use
$\sqrt[x]{}$	Root	Used to find the xth root of a number.
π	Pi	Used to evaluate and use pi in a calcul
$^1/_x$	Fraction	Used to evaluate and use fractions
E or 10^x	Exponential	Used to multiply or divide a nu
=	Equals	Used to find the outcome of
+	Addition/plus	Used to find the sum of t
-	Subtraction/take away	Used to find the diffe numbers.
x or *	Multiplication	Used to find the 12
÷ or /	Division	Used to find t 3 = 5

All operations given in the table are shown on the calculator to the right. Note that while all calculators will be different, this diagram should illustrate what some of the keys may look like. To use the yellow or blue operations on the keypad (e.g. $\sqrt[x]{}$) use the '2nd' or '3rd' buttons.

SAMPLE

FOR THE TE

For the Teachers

Please note: any activity that is not completed during class time undertaken at a later date.

'Puzzle Predicament', 'Calcula 'Find-a-W

- **Activity Description**:
  - These activities will require student compete with each other in games pertaining to
    - The first worksheet requ the order in which they enter calculations e students have to navigate a "maze". P ng the letters that appear on each pa message.
    - The second worl r games. The first game is a race betwee ions. The second game is designed to h of the game is to complete calculations eliminations every round, but no studen e.
    - The thi eries of calculations, after each of which nd discover a word. They then have to fi
    -

ge of and skills with a calculator, especially in n and identification of particular buttons.

rs, words and other symbols (α1)
one form to another (α7)
th or without calculators (Φ16)
rogression of steps to achieve the required answer (Φ37)
and locating items/ information (α52)

on:

ned to be completed within an hour – 20 minutes for each activity

This Item Description is continued on the next page...

SAMPLE

Item Description – continued

…This Item Description is continued from the previous page.

‘Puzzle Predicament’, ‘Calcula
‘Find-a-W

- **Teaching Notes:**
  - Students will require a calculator fo
  - Students should attempt all activit ed.
  - If students struggle with mental
  - Homework/ Extension Ideas:
    - Activity One could be squares and square roots.
    - Activity Two coul small groups and having a competition t lems first.
- **Follow Up/ Class Disc**
  - Why do calculato oblems versus solving it by mental arithmet
  - Why would J es in times of warfare?
  - In what situ calculations instead of using a calculator

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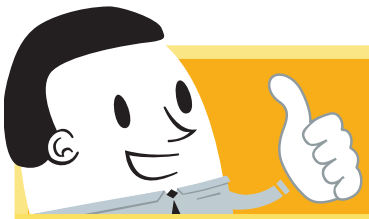

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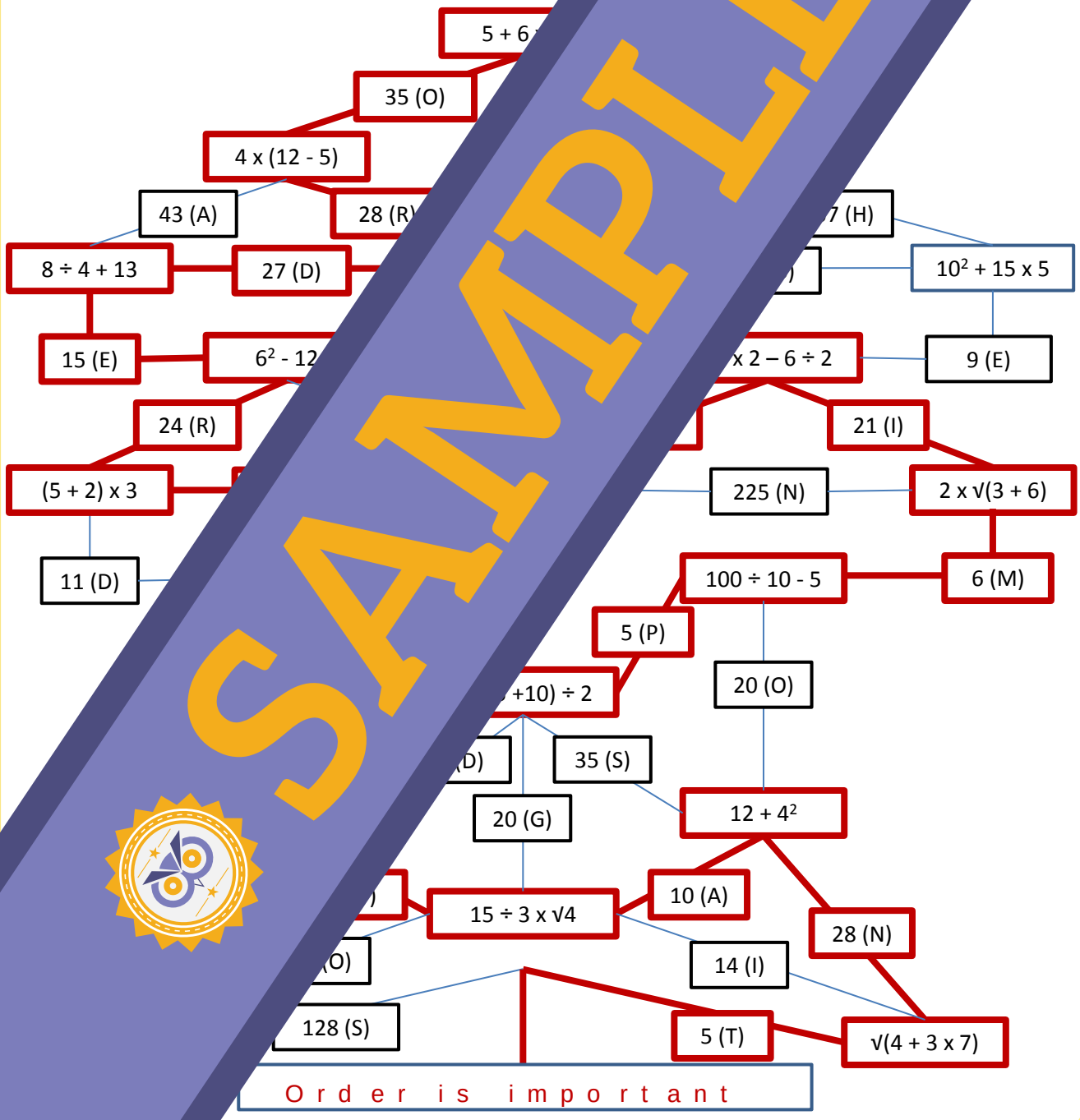


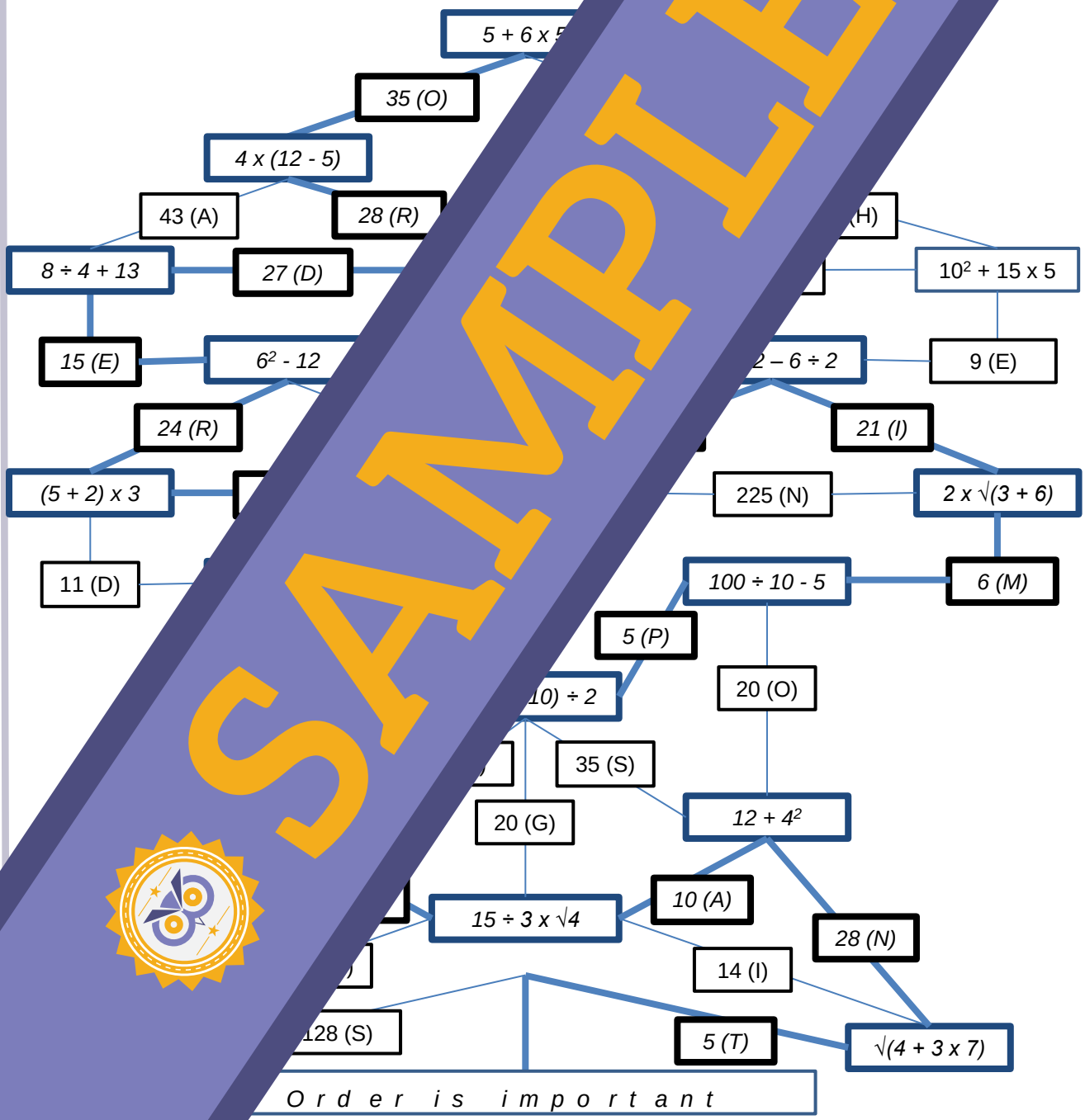
SAMPLE

Puzzle Predicament

Question One:

Students were required to navigate their way through a puzzle h
answer would give a letter, with all the correct letters spelling
been bolded and italicised in the model diagram below.

Model Diagram:



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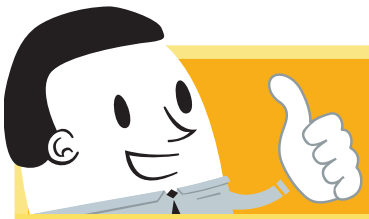

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c) 5 x 200 ÷ 2 = 500

d) 935 – 125 – 165 = 645

e) 8 190 + 2 031 – 9 999 = 222

f) 6 602 x 3 = 19 8

g) 12 130 + 1 923 = 1

h) 5 x 6 x 3 =

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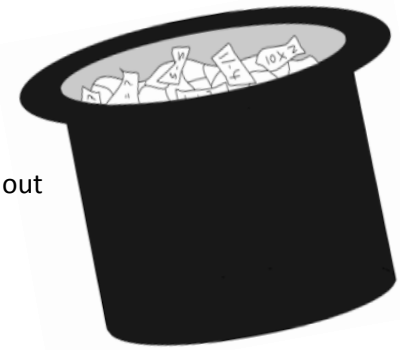

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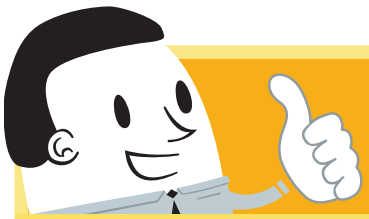

Calculator Competitions

! Calculations to be cut out and put in a hat.

Calculation 1: **320 450 – 30 250 = 290 200**	Calculation 2: **4 350 + 1 020 = 5 300**	**00**
Calculation 4: **7 400 + 2 130 = 9 530**	Calcul	6: **– 9 030 00 170**
Calculation 7: **500 – 364 = 136**		Calculation 9: **34 + 76 = 110**
Calculation 10: **6 x 6 + 4 = 40**		Calculation 12: **234 + 134 =368**
Calculat **90**	14: **x 20 0 200**	Calculation 15: **12 x 3 x 2 = 72**
	alculation 17: **100 ÷ 2^2 = 25**	Calculation 18: **10 x 15 x 20 = 3 000**
	Calculation 20: **6 x 102 = 612**	Calculation 21: **12 x 2 ÷ 6 = 4**

SAMPLE

Calculator Competitions

Question One:

Students were required to perform a series of calculations ment
They were then told to check their results with a calculator.

Model Response:

1 324 521 + 400 209 = 1 724 730
534 982 + 35 829 – 201 894 = 368 917
5 x 200 ÷ 2 = 500
935 – 125 – 165 = 645
8 190 + 2 031 – 9 999 = 222
6 602 x 3 = 19 806
12 130 + 1 923 = 14 053
5 x 6 x 3 = 90

Question Two:

This question involved the entire ...ions as quickly as they could mentally while one student solv... student calculating using a calculator was beaten, he or ... The answers to the calculations below are solved from left t...

Answers to Calculations

290 200
5 300
16 010
9 530
42
100
1...

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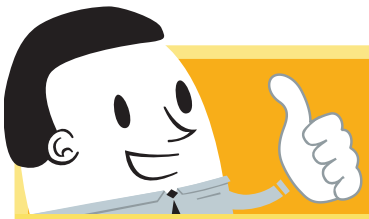

Find-a-Word

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b) 96% x 3650 = 3…

c) $-3166 + 34^3$

d) 0.4 x 945…

e) 1024…

f) 7 x…

g) …

h) …

i) …

…318804

…4

…) +1 = 5637

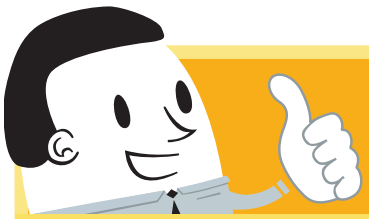
…) x 5 = 7105

…x 5 = 53215

…^{2} = 5514

…SHELL
…OSE
OOZES
SHOES
SIZZLE
BLOG
GOBBLE
BOSS
HOBBIES
HIGH
LEGS
SOIL
SIZES
HISS

SAMPLE



Find-a-Word

! Word Search

H	G	O	B	B	L	E				
O	S	O	I	L	L					
B	L	A	L	O						
B	T	E	G	G						Z
I	O	R	S						S	E
E	E	H							L	S
S	E	O						E	E	L
B	O						H	I	G	H
U							H	I	S	S

By reading le g note of the letters that do not belong to a word in the word

Write t

_ _ _ R S

_ _ _ R Y

_ P F U L

SAMPLE

! Tip

Below is a list of what letter each number represents on the calculator:

1 = I
2 = Z
3 = E
4 = H
5 = S
6 = G
7 = L
8 = B
0 = O

Find-a-Word

Question One:

Students were required to work out a series of problems on thei
answer for a problem, they were required to flip the calculator
the numbers. After discovering the word, they then had to fi
students had problems reading the word off of their calcula
states what each number represents when the calculato hat
they have to turn their calculators upside down otherwi
correct words. Once the word search has been comp
discover the hidden message within the word searc the word
search that did not belong to any words.

Model Response:

	Calculations:	Hidden Word:
a)	$238^2 + \sqrt{2152}$	BOILS
b)	96% x 365	*HOSE*
c)	-3166 +	*BEIGE*
d)	0.4 x	*BIBLE*
e)	10	*EGGSHELL*
f)		*LOOSE*
g)		*OOZES*
		SHOES
		SIZZLE
		BLOG
		GOBBLE
	08	*BOSS*
	= 5318804	*HOBBIES*
	614	*HIGH*
	x 6) +7 = *5637*	*LEGS*
	454) x 5 = 7105	*SOIL*
	3) x 5 = 53215	*SIZES*
	- 4^2 = 5514	*HISS*

SAMPLE

This answer guide is continued on the next page...

TEACHER'S ANSWE

...This answer guide is continued from the previous page.

Question One (cont'd):

The words that students were required to find in the word sear
the letters that remain and were required to be placed in the

Model Response:

H	G	O	B	B						A
O	S	O	I						O	S
B	*L*	*A*						B	I	I
B	*T*	E						L	L	Z
I	*O*						*R*	E	S	E
E						*E*	S	*V*	L	S
S					S	*H*	*E*	E	*L*	
				L	*F*	H	I	G	H	
			G	E	*L*	H	I	S	S	

C A L C U L A T O R S
— — — — — — — — — — —

A R E V E R Y
— — — — — — —

H E L P F U L
— — — — — — —

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Alternati
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entire worksheet
at a later date.

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