

S1 NON CALCULATOR NUMBER WORK COURSE

Notes:-

- Intended impact - improved S1 non calculator numeracy skills.
- Time - one period a week for half year.
- Initially students will arrive in mixed ability classes and sit a diagnostic assessment to be put into three broad band ability groups for the remaining sessions.
- Staff will work on any of the below non calculator work as they deem fit having considered prior learning as demonstrated in diagnostic entry assessment.
- On exit students will resit diagnostic assessment so that impact can be evaluated.

Topic	Level 2	Towards Level 3	Level 3	Harder - Extension
ADDING	add up to 2 digit numbers to 2 digit numbers including decimals eg $69 + 37$ or $5.2 + 4.8$	add decimals eg $1.55 + 2.3$ or $2.25 + 1.1$	add decimals to 3 dp eg $4.4 + 2.615$ or $4.555 + 121.5$	add more than two decimal numbers to 3 dp eg $16.8 + 4.4 + 2.615 + 4.55$ or mental adding of 2 decimals
SUBTRACTING	subtract up to 2 digit numbers including decimals eg. $51 - 28$ or $5.2 - 4.7$	subtract decimals eg $4.75 - 1.2$ or $4 - 1.3$	subtract decimals to 3 dp eg $4 - 2.615$ or $2.258 - 1.15$	mental subtracting of 2 decimals
TIMES TABLES	rapid recall of number facts tables 1 to 10 eg 6×9 or $48 \div 6$	rapid recall of number facts tables 1 to 12 eg 6×9 or $144 \div 12$	more rapid recall of number facts tables 1 to 12 eg 6×9 or $144 \div 12$	more rapid recall of number facts eg $6 \times 5 \times 2$ or $72 \div 8 \times 2$
MULTIPLYING	multiply 2 and 3 digit numbers by a single digit eg 35×4 or 324×6	multiply 2 and 3 digit numbers by a single digit eg 75×5 or 270×8	multiply decimals by a single digit eg 4.6×3 or 2.8×9 or 24.2×7	multiply decimals by a decimal eg 4.8×0.2 , 0.39×0.04 or long multiplication
DIVIDING	divide 2 and 3 digit numbers by a single digit eg $60 \div 5$ or $135 \div 3$	divide 2 and 3 digit numbers by a single digit including examples with decimal answers eg $831 \div 6$ or $248 \div 5$	divide decimals by a single digit eg $0.2 \div 4$ or $2.4 \div 6$ or $23.6 \div 5$	divide decimals by a decimal $2.3 \div 0.4$ or $16.4 \div 0.05$ or long division
FRACTIONS OF AMOUNTS	find fractions of quantities such as $\frac{2}{3}$ of 12 or $\frac{3}{4}$ of 20 or $\frac{2}{5}$ of 20 or $\frac{4}{5}$ of 30 and fractions of 3 digit number eg $\frac{1}{4}$ of 600	find fractions of quantities such as $\frac{2}{3}$ of 21 or $\frac{3}{4}$ of 36 or $\frac{4}{5}$ of 45 or $\frac{9}{10}$ of 30 and more complex eg $\frac{2}{3}$ of 240 or $\frac{3}{4}$ of 12 or $\frac{2}{5}$ of 300	find fractions of more complex quantities, including decimals such as $\frac{2}{7}$ of 420 or $\frac{4}{5}$ of 4 or $\frac{5}{6}$ of 5.4 or $\frac{19}{20}$ of 200	find fractions of more complex quantities, including decimals and other fractions such as $\frac{7}{8}$ of 52.8 or $\frac{4}{9}$ of $\frac{3}{8}$
PERCENTAGES OF AMOUNTS	find 50%, 25% and 10% of simple quantities eg 25% of 32 m or 10% of 40	find 10%, 25%, 50% and 75% of more complex quantities eg 50% of 5.8 kg or 10% of 4.6 m or 25% of 3 L or 75% of 12 m	find more complex % of quantities eg 75% of 1.4 kg or 30% of 0.6 m or 75% of 5 L or 90% of £ 8	find more complex % of quantities eg 65% of 1.4kg or 38% of 5200kg or 12.5 % of £ 48 or percentage increases
EQUIVALENCE FRACTIONS DECIMALS PERCENTAGES	recognise the equivalence between fractions, decimals and percentages eg $\frac{1}{4} = 0.25 = 25\%$ or $\frac{3}{4} = 0.75 = 75\%$ or $\frac{1}{5} = 0.2 = 20\%$	recognise more complex equivalences between fractions, decimals and percentages eg $\frac{2}{5} = 0.4 = 40\%$ or $\frac{9}{10} = 0.9 = 90\%$ or $\frac{1}{20} = 0.05 = 5\%$	convert decimals, fractions, percentages eg $0.45 = \frac{9}{20} = 45\%$ or $0.625 = \frac{5}{8} = 62.5\%$ or $0.04 = \frac{4}{100} = 4\%$	convert decimals, fractions, % and ratios eg $0.45 = \frac{9}{20} = 45\% = 9:11$ or $0.625 = \frac{5}{8} = 62.5\% = 5:3$ or $0.04 = \frac{4}{100} = 4\% = 1:24$
ADDITIONAL TOPIC IF REQUIRED FRACTION SUMS	do simple fraction add and subtract sums such as $1 - \frac{2}{5}$ or $\frac{11}{4} + \frac{3}{4}$ and recognise if a fraction is $>$ or $<$ than a half eg $\frac{2}{5}$ is less, and $\frac{3}{5}$ is more	add and subtract fractions such as $3 - \frac{13}{7}$ or $\frac{22}{5} + \frac{12}{5}$ or $\frac{11}{2} - \frac{3}{4}$	add, subtract, multiply and divide fractions such as $\frac{23}{4} - \frac{5}{8}$ or $\frac{1}{3} - \frac{1}{4}$ or $3 \frac{1}{2} - \frac{3}{4}$ or $\frac{1}{5} + \frac{1}{6}$ or $\frac{3}{4} \times \frac{4}{5}$ or $\frac{5}{8} \div \frac{1}{2}$	add, subtract, multiply and divide more complex fractions including mixed fractions

S1 Numeracy Entry/Exit Test

Please make sure that students are told that:

- they may not use a calculator
- the questions get harder from left to right so that they may wish to work in columns
- they are not expected to be able to answer all of the questions
- they can have extra scrap paper if they wish extra room for working

S1 Number Work	Name		Class
Do not use a calculator.		Answer as many questions as you can.	
$12 + 8$	$3.6 + 2.7$	$2.5 + 1.55$	$4.4 + 2.615 + 14$
$49 - 5$	$51 - 28$	$4.75 - 1.2$	$5 - 1.268$
3×4	35×6	270×8	3.8×9
$24 \div 6$	$135 \div 3$	$98 \div 5$	$2.6 \div 4$
50% of 24	25% of 32	75% of 4.8	90% of 8
$\frac{1}{3}$ of 18	$\frac{4}{5}$ of 30	$\frac{2}{3}$ of 222	$\frac{5}{6}$ of 5.4

When you have answered as many questions as you can try the wordsearch on the back of this page.

Math Word Search Puzzle

There are 41 math words hidden in this puzzle, but only 40 listed below. Can you find them all? The mystery math word may not seem like much to many people, but it really is important!

Z	N	Y	X	Y	E	N	O	S	E	Y	E	R	Y	D	Z	C	U	X	O
D	I	L	S	T	I	K	M	I	R	R	Q	T	O	C	D	E	I	E	P
J	N	P	I	F	W	P	G	O	M	F	N	U	S	S	C	A	R	R	C
M	E	I	X	I	X	H	T	U	A	E	D	U	O	N	I	R	V	O	Z
P	T	T	T	F	T	A	L	C	W	S	B	W	E	T	F	V	U	L	I
R	Y	L	Y	C	R	T	T	T	T	T	O	R	E	O	I	N	I	Q	D
O	P	U	V	E	I	O	F	B	R	W	E	U	U	J	T	E	Z	D	E
D	S	M	M	P	R	Y	I	A	T	F	A	R	P	E	G	Q	N	W	N
U	L	U	L	J	Y	T	C	S	F	X	U	D	N	E	V	E	S	T	O
C	N	E	E	T	M	T	B	I	Z	D	E	R	D	N	U	H	C	S	M
T	E	D	V	H	F	Y	D	M	K	Q	C	Q	L	E	Y	L	R	N	I
G	L	M	I	R	W	Y	T	K	E	W	T	A	I	F	N	C	G	M	N
G	E	B	F	E	Z	F	B	N	W	P	R	H	O	Q	N	D	A	I	A
P	D	P	N	E	N	A	R	L	E	E	P	R	I	Q	E	N	I	N	T
T	I	G	G	S	Y	L	Q	B	M	V	T	W	V	R	T	W	N	U	O
B	V	P	C	T	U	Q	A	U	D	Y	E	M	E	F	T	E	V	S	R
S	I	O	H	Z	Z	L	N	F	V	L	L	S	V	T	Y	Y	B	T	T
S	D	G	B	G	D	V	P	Y	Z	K	Y	R	E	B	M	U	N	T	S
H	I	N	O	I	T	C	A	R	F	X	I	S	Q	R	M	U	S	Q	I
E	P	J	F	M	K	V	W	D	H	A	S	L	A	U	Q	E	O	K	P

ADD
ADDEND
COUNT
DENOMINATOR
DIFFERENCE
DIVIDE
DIVISOR
EIGHT
EIGHTY
EQUALS

FACTOR
FIFTY
FIVE
FORTY
FOUR
FRACTION
HUNDRED
MINUS
MULTIPLE
MULTIPLY

NINE
NINETY
NUMBER
NUMERAL
NUMERATOR
ONE
PLUS
PRODUCT
QUOTIENT
SEVEN

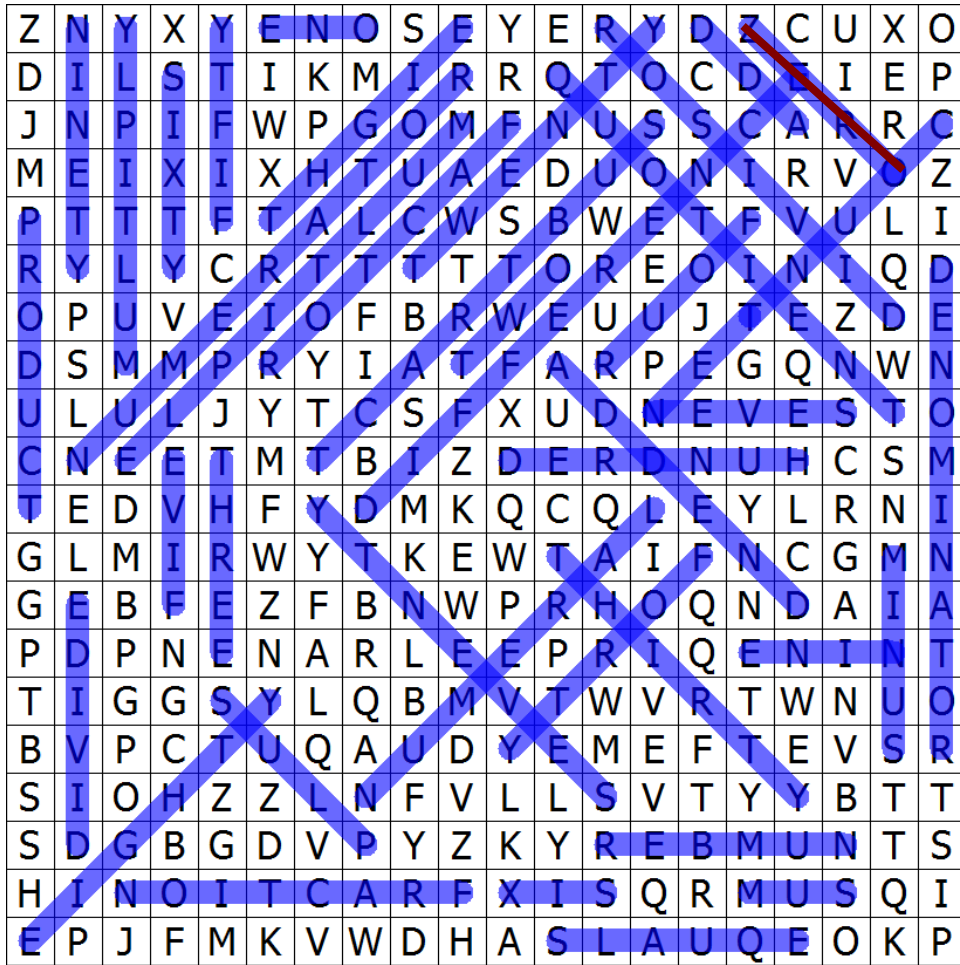
SEVENTY
SIX
SIXTY
SUBTRACT
SUM
TEN
THIRTY
THREE
TWENTY
TWO



S1 Number Work		Marking scheme - one mark for each correct answer.	
Do not use a calculator.		Answer as many questions as you can.	
12 + 8 20	3.6 + 2.7 6.3	2.5 + 1.55 4.05	4.4 + 2.615 + 14 21.015
49 - 5 44	51 - 28 23	4.75 - 1.2 3.55	5 - 1.268 3.732
3 x 4 12	35 x 6 210	270 x 8 2160	3.8 x 9 34.2
24 ÷ 6 4	135 ÷ 3 45	98 ÷ 5 19.6	2.6 ÷ 4 0.65
50% of 24 12	25% of 32 8	75% of 4.8 3.6	90% of 8 7.2
$\frac{1}{3}$ of 18 6	$\frac{4}{5}$ of 30 24	$\frac{2}{3}$ of 222 148	$\frac{5}{6}$ of 5.4 4.5

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Answers



The mystery word is ZERO.

