## Mathematics Department

## R1 Homework

These questions should be attempted WITHOUT the use of a calculator, unless it is stated that a calculator may be used.

Answer ALL questions in your homework jotter.

ALL WORKING MUST BE SHOWN.

Number your questions clearly.

Calculators may be used when you see

| NAME | CLASS | TEACHER |
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## S1 Non Calculator Weekly 1

1. Calculate:
a. 577-328
b. $24 \cdot 6+567$
C. 52.4-13.02
2. Simplify each expression:
a. $5 a+2 a+4 a$
b. $6 y-4 y$
c. $8 x+3 x-5 x$
3. Calculate:
a. $18 \times 4$
b. $654 \times 7$
c. $145 \div 5$
4. If $a=4$ and $b=2$, find the value of:
a. $a+b$
b. $2 a+4 b$
c. $a b-b$
5. Copy the list of numbers and circle the multiples of 6 : $\begin{array}{lllllll}9 & 12 & 24 & 35 & 44 & 56 & 60\end{array}$

## S1 Non Calculator Weekly 2

1. Simplify each expression:
a. $4 f+6 f+5 f$
b. $2 a+6 a-3 a$
c. $7 \mathrm{t}-4 \mathrm{t}+2 \mathrm{t}$
2. Calculate:
a. 178-159
b. $28-19+78$
C. $189 \cdot 6+29$
3. If $x=4, y=5$ and $z=6$, evaluate the following expressions:
a. $2 x+y$
b. $x+2 y-z$
c. $x y$
4. Calculate:
a. $154 \times 6$
b. $288 \div 4$
C. $14 \times 8$
5. Copy the list of numbers and circle the factors of 48:

5
6
8
9
12

## S1 Non Calculator Weekly 3

1. Calculate:
a. 274-166
b. $14 \cdot 6+156-31 \cdot 8$
2. Round the following to 1 decimal place:
a. $16 \cdot 25$
b. $356 \cdot 245$
C. $\quad 6.79$
3. Simplify the following expressions:
a. $3 x+6 x-2 x$
b. $7 y+5 x-3 y$
c. $\quad 9 a-3 a+4 b$
4. Calculate:
a. $4 \times 18 \times 25$
b. $\quad 1 \cdot 65 \times 10$
c. $\quad 3 \cdot 05 \times 10000$
5. If $a=6$ and $b=3$, calculate the value of:
a. $3 a+2 b$
b. $a b$
c. 3 ab
6. Write down all the factors of
a. 10
b. 24
c. 39

## S1 Non Calculator Weekly 4

1. Calculate:
a. $17 \cdot 2 \times 100$
b. $15 \cdot 88 \times 10000$
C. $3.6 \times 10$
2. Simplify the following expressions:
a. $5 a+6 a-2 a$
b. $7 x+2 y-3 x$
c. $4 p+2 r-3 p-r$
3. Calculate:
a. $14 \div 5$
b. $\quad 16 \cdot 44+3 \cdot 2$
c. $2.5 \times 6$
4. Calculate:
a. $17 \cdot 2+2 \cdot 44$
b. $15 \cdot 6-3 \cdot 8$
c. $13 \cdot 2+2 \cdot 4-5 \cdot 5$
5. Copy the list of numbers and circle the square numbers:

$$
\begin{array}{llllllllll}
3 & 9 & 12 & 16 & 24 & 36 & 56 & 64 & 88 & 100
\end{array}
$$

## S1 Non Calculator Weekly 5

1. Simplify the following expressions:
a. $3 t+2 r+3 t-2 r$
b. $7 a+5 b-3 a+2 b$
2. Round the following numbers to 1 decimal place:
a. $3 \cdot 56$
b. $21 \cdot 34$
C. 21.99
3. Calculate:
a. $17 \div 5$
b. $99+38 \cdot 6-3 \cdot 02$
C. $19+7 \times 4$
4. If $a=4, b=2$ and $c=1$, find the value of:
a. $a+b-c$
b. $3 a+2 c$
C. $a b-3 c+4 b$
5. Calculate:
a. $6.45 \times 100$
b. $23 \cdot 5 \times 30$
c. $\quad 139.4 \div 200$

## S1 Non Calculator Weekly 6

1. Calculate:
a. $137+243-24 \cdot 9$
b. 342-187
2. Round to 1 decimal place:
a. $27 \cdot 42$
b. $429 \cdot 835$
c. $\quad 7 \cdot 99$
3. Simplify the following expressions:
a. $8 x+4 x-6 x$
b. $12 a+3 b-8 a$
c. $4 a-3 a+2 b$
4. Calculate:
a. $2.43 \times 10$
b. $3.74 \times 1000$
c. $25 \times 54 \times 4$
5. If $a=4$ and $b=7$, calculate the value of:
a. $2 a+3 b$
b. $5 \mathrm{~b}-3 \mathrm{a}$
c. 5 ab
6. Write down all the factors of:
a. 32
b. 36
C. 48

## S1 Non Calculator Weekly 7

1. Calculate:
a. $43 \cdot 2 \times 100$
b. $24.73 \times 1000$
C. $4.7 \times 10$
2. Simplify the following expressions:
a. $14 a+3 b-5 a$
b. $4 x+5 y-3 x$
c. $5 t+4 s-3 t+6 s$
3. Calculate:
a. $5 \cdot 3 \times 8$
b. $23 \cdot 46+8 \cdot 2$
c. $48 \div 5$
4. Round the following numbers to 1 decimal place:
a. $2 \cdot 43$
b. $\quad 53.749$
C. $\quad 49.99$
5. If $a=5, b=3$ and $c=7$, calculate the value of:
a. $a+b+c$
b. $5 a b-3 c$
c. abc
6. Calculate:
a. $32 \cdot 4 \times 40$
b. $3 \cdot 6 \times 400$
c. $48 \cdot 3 \div 30$

## S1 Non Calculator Weekly 8

1. Round to the nearest whole number:
a. $276 \cdot 38$
b. $5 \cdot 5$
C. $\quad 16 \cdot 56$
2. Calculate:
a. $263 \times 20$
b. $306 \times 300$
c. $48 \times 5000$
3. Calculate:
a. $3 \times 20+12$
b. $7+3 \times 12$
c. $3 \times(5+7)$
4. Round to 1 decimal place:
a. $15 \cdot 35$
b. $28 \cdot 336$
c. $2 \cdot 55$
5. Calculate:
a. $260 \div 20$
b. $55000 \div 50$
c. $21300 \div 300$
6. Calculate, showing working clearly:
a. $234 \times 25$
b. $310 \times 46$

## Problem Solving 1

Chris has to write a 3000 word essay. She estimates that she can fit 55 lines of type on each page, and about 14 words in each line.

How many sides of paper will she use?

## S1 Non Calculator Weekly 9

1. Round to 2 decimal places:
a. $2 \cdot 3445$
b. $13 \cdot 76$
C. $4 \cdot 398$
2. Calculate:
a. $216 \cdot 4 \div 20$
b. $32.4 \times 300$
c. $\quad 42 \cdot 11 \times 500$
3. Copy these sequences, filling in the missing numbers:
a. $3,8,13,18$, $\qquad$
b. $88,77,66,55$, $\qquad$ , ,
c. $7,11,15,19$, $\qquad$ , _, , -
4. Calculate, showing working clearly:
a. $82 \times 35$
b. $714 \times 33$
5. Change to cm :
a. 23 cm
b. $3 \cdot 4 \mathrm{~m}$
C. 46 mm

## Problem Solving 2

182 pupils and 9 teachers are going on a theatre visit. They hire 42 seater buses.
a. How many buses will they need?
b. Will there be extra seats if any more pupils decide to go?

1. Calculate:
a. $23+2 \times 8$
b. $170 \times 20$
c. $12 \times(8-5)$
2. Round to 1 decimal place:
a. 17.66
b. $45 \cdot 246$
c. 3.98
3. Fill in the next three numbers of the sequences:
a. 12, 15, 18, _, _,
b. 27, 22, 17, —, —, -
c. $1,4,9,16, \ldots, \ldots$
4. Calculate:
a. $42 \times 400$
b. $15 \div 4$
c. $3.05 \times 10000$
5. Copy the numbers below and circle the prime numbers:

$$
\begin{array}{llllllll}
1 & 2 & 7 & 25 & 3 & 40 & 47 & 49
\end{array}
$$

6. Write down all the factors of:
a. 12
b. 25
c. 36

## Problem Solving 3

An electrician has 100 metres of wire on a drum. He uses 13.6 m and 28.7 m of wire in one house, and the same lengths again in another house. What length of wire will be left?

1. Calculate:
a. $8+3 \times 5$
b. $2030 \div 500$
c. $\quad 27.7 \times 40$
2. Simplify the following expressions:
a. $6 a+3 b-5 a$
b. $12 x+3-4 x-3$
b. $5 r+5 t-3 r-4 t$
3. Calculate:
a. $12 \div 5$
b. $32 \cdot 6+2 \cdot 5$
C. $4 \cdot 6 \times$ 12
4. Calculate:
a. $3+15 \times 4$
b. $5 \times 4+3$
5. Calculate:
a. $23 \times 45$
b. $\sqrt{49}$
c. $6^{2}$

## Problem Solving 4

In a test $\frac{1}{5}$ of the pupils will be given an $A$ grade, $\frac{1}{2}$ a $B$ grade, $\frac{1}{4}$ a C grade, and the rest a D grade.
Out of the 40 pupils, how many will get each grade?

## S1 Non Calculator Weekly 12

1. Simplify the following expressions:
a. $2 \mathrm{a}+3 \mathrm{c}-\mathrm{a}+5 \mathrm{c}$
b. $6 x+3 y-6 x+2 y$
c. $12 p+4-5 p$
2. Round the following numbers to 1 decimal place:
a. $3 \cdot 09$
b. $23 \cdot 34$
C. $\quad 16.99$
3. Calculate:
a. $21 \cdot 4 \div 5$
b. $15+3 \cdot 2-3.02$
c. $12+7 \cdot 1 \times 3$
4. If $a=5, b=3$ and $c=1$, find the value of:
a. $a+b-c$
b. $3 a+2 c$
c. $a b-3 c+4 b$
5. Calculate:
a. $6.45 \times 300$
b. $23.5 \times 60$
C. $29.4 \div 200$

## Problem Solving 5

Kevin counts money paid into his bank account as positive, and money he takes out as negative. How much did he have in his account after each pay-in and pay-out shown below?
$+£ 10 \quad+£ 5 \quad-£ 20 \quad-£ 5 \quad+£ 10 \quad-£ 5 \quad+£ 30$

## S1 Non Calculator Weekly 13

1. Round to 1 decimal place:
a. $276 \cdot 38$
b. $5 \cdot 55$
c. $\quad 16 \cdot 596$
2. Calculate:
a. $15-3 \times 5$
b. $2 \cdot 45+15 \cdot 55$
c. $\quad 16 \cdot 596$
3. Express the following fractions in their simplest form:
a. $\frac{25}{40}$
b. $\frac{50}{720}$
C. $\frac{12}{16}$
4. Calculate, giving your answer in the simplest form:
a. $\frac{2}{5}+\frac{1}{5}$
b. $\frac{3}{4}+\frac{1}{2}$
C. $2 \frac{5}{6}-\frac{1}{6}$
5. Simplify:
a. $2 x+3 y-2 x-3 y$
b. $5 a+2 a-3 b$
c. $4+2 c-3$
6. Write down:
a. $\sqrt{25}$
b. $7^{2}$
c. $2^{3}$

## Problem Solving 6

200 pupils and 5 teachers are going on a school trip. They hire 52 seater buses.
a. How many buses will they need?
b. How many empty seats will there be?

## S1 Non Calculator Weekly 14

1. Calculate:
a. $\frac{2}{5}+\frac{3}{5}$
b. $\frac{5}{8}-\frac{1}{2}$
C. $\frac{1}{3}+\frac{4}{5}$
2. Calculate:
a. $\quad 216.4 \times 20$
b. $27.36 \times 1000$
C. $\quad 4 \cdot 772 \div 10$
3. Calculate:
a. $23 \times 42$
b. $145 \times 43$
4. If $a=4$ and $b=6$, find the value of:
a. $2 a+3 b$
b. ab
c. $2(a+3 b)$
5. Calculate:
a. $\quad \frac{1}{4}$ of 24
b. $\frac{2}{5}$ of 55
C. $\frac{2}{7}$ of 21

## Problem Solving 7

Seaview restaurant is spending $£ 1800$ on new tables and chairs.

The owner buys 20 tables costing $£ 60$ each.
How many chairs can he buy at $£ 8$ each?

## S1 Non Calculator Weekly 15

1. Calculate:
a. $16-2 \times 5$
b. $150 \times 200$
c. $2 \cdot 35 \div 50$
2. Round to the nearest whole number:
a. $21 \cdot 88$
b. $12 \cdot 35$
C. $157 \cdot 9$
3. Simplify:
a. $2 \mathrm{a}+3 \mathrm{~b}-\mathrm{a}$
b. $5 x+3 x-2 y$
4. Find:
a. $\frac{2}{5}+\frac{1}{2}$
b. $\frac{5}{8}-\frac{1}{4}$
C. $\frac{2}{3}$ of $£ 45$
5. Copy the numbers below and circle the factors of 12 :
$\begin{array}{lllll}1 & 2 & 3 & 4\end{array}$
7
910
$12 \quad 24$
6. Simplify:
a. $\frac{21}{30}$
b. $\frac{30}{40}$
C. $\frac{45}{70}$

## Problem Solving 8

My petrol tank was exactly $\frac{1}{4}$ full. It took 24 litres of petrol to fill the tank up. How many litres does my tank hold altogether?

## S1 Non Calculator Weekly 16

1. Simplify the following expressions:
a. $5 x-3 y+2 x$
b. $2+5 a-2$
c. $\quad 15 w+2 d-4 w-d$
2. Calculate, giving your answer in its simplest form:
a. $\frac{2}{5} \times \frac{7}{8}$
b. $\frac{5}{6}+\frac{2}{3}$
C. $\frac{5}{8}-\frac{1}{2}$
3. Calculate:
a. $\frac{3}{7}$ of 21 g
b. $\frac{5}{8}$ of $64 g$
C. $\frac{2}{5}$ of 550 m
4. Round to 2 decimal places:
a. $2 \cdot 345$
b. 4.988
C. 8.999
5. Calculate:
a. $3.4 \times 100$
b. $12 \cdot 66 \div 10$
C. $2 \cdot 1 \times 20$

## Problem Solving 9

Lee gives his Dad a puzzle.
"Five times my age plus 10 years, makes 70 . How old am I?"
Make an equation and solve it to find out how old Lee is? His Dad replied, "Four times my age less 10 years is 130 ." How old is Lee's Dad?

## S1 Non Calculator Weekly 17

1. Simplify the following expressions:
a. $5 x-3 y+4 x$
b. $3+4 a-3+5 a$
c. $6 x y+2 x y-3$
2. Express these fractions in their simplest form:
a. $\frac{12}{24}$
b. $\frac{50}{55}$
C. $\frac{27}{33}$
3.Calculate:
a. $5 \times \frac{2}{5}$
b. $\frac{3}{8} \times 16$
C. $\frac{2}{3} \times \frac{4}{5}$
4.If $a=5, b=3$ and $c=1$, find the value of:
a. $2 a-3 b+c$
b. $a b-2 c$
c. $3 \mathrm{ac}-\mathrm{4b}$
3. Calculate:
a. $23 \cdot 86+3 \cdot 9$
b. $15 \cdot 6-2 \cdot 78$

Problem Solving 10
The bill for a holiday to Austria for a party of six, two of which were children, came to $£ 2020$.

As one child was only 8 years old, he got free.
The remainder of the cost was split equally among the adults.

What did it cost each adult for the holiday?

## S1 Non Calculator Weekly 18

1. Round to 1 decimal place:
a. 2.367
b. $\quad 12 \cdot 35$
c. $\quad 35.99$
2. Name the angles:
a.

b.

3. Express these fractions in their simplest form:
a. $\frac{28}{52}$
b. $\frac{35}{60}$
C. $\frac{30}{80}$
4. Calculate the values of a and b :

5. Simplify:
a. $3 x-2 y+5 x+5 y$
b. $2 a b+3 a-a b$
6. Calculate:
a. 5-12
b. $-2+7$
c. 2-18

## Problem Solving 11

| CUT AND STYLE |  |
| :--- | :--- |
| SHAMPOO | $£ 4.45$ |
| CUT AND BLOW DRY | $£ 18.75$ |
| COLOURING | $£ 10.40$ |

Carol has her hair done at "CUT AND STYLE". Her bill is shown to the left.
a. Calculate the total cost.
b. She pays with 2 £20 notes and gives a $£ 2$ tip from her change. How much has she left from her $£ 40$ ?

1. Find:
a. $\frac{1}{4}$ of 24
b. $\frac{2}{5}$ of 15
c. $\frac{5}{7}$ of 21
2. Calculate the value of angles a and b :

3. Calculate:
a. 12-15
b. $-2+10$
c. $-13+18$
4. If $a=3$ and $b=5$, find the value of:
a. $2 \mathrm{a}+3 \mathrm{~b}$
b. ab
c. $2(a+3 b)$
5. Calculate:
a. $\frac{3}{5}+\frac{1}{4}$
b. $\frac{2}{5} \times \frac{4}{7}$
c. $\frac{4}{5} \times \frac{5}{8}$

## Problem Solving 11

A fish tank is 1 m long, 25 cm wide and 20 cm deep. How many litres of water does it hold?

1. Calculate:
a. $-8+(-2)$
b. 5-(-4)
c. -3-(-7)
2. Find the value of $a, b$ and $c$ :

3. Calculate:
a. $21 \cdot 4 \times 200$
b. $\quad 36 \cdot 05 \div 50$
4. Find:
a. $\frac{3}{4}-\frac{2}{5}$
b. $\frac{4}{5}$ of 24
c. $\frac{2}{3} \times \frac{5}{6}$
5. Calculate:
a. $5+4 \times 2$
b. $6+(3-1)$
c. 7-3×2
6. Write down:
a. $\sqrt{36}$
b. $5^{2}$

## Problem Solving 12

In a garden $\frac{1}{3}$ of the area is used for vegetables and $\frac{2}{5}$ for flowers and paths. If the rest of the garden consists of lawns, what fraction of the garden is given to lawns?

## S1 Non Calculator Weekly 20

1. Simplify the following expressions:
a. $2 a+3 a-4 a$
b. $2 c+5 d-3 c$
c. $2 y-3 x+4 y+3 x$
2. Calculate, giving your answer in its simplest form:
a. $\frac{5}{8}+\frac{3}{4}$
b. $25 \times \frac{2}{5}$
c. $\frac{3}{8} \times \frac{6}{7}$
3. Find the values of $\mathrm{a}, \mathrm{b}$, and c :

4. Round to 1 decimal place:
a. $12 \cdot 22$
b. $\quad 3.45$
c. $\quad 6.99$
5. Calculate:
a. -12-2
b. $15-(-12)$
c. $23+(-6)$

## Problem Solving 13

A bowling green is a square of side 35 m .
What is the cost of returfing it at $£ 2 \cdot 70$ per $\mathrm{m}^{2}$ ?

