



R2 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

S2 Non Calculator Weekly Homework 1

1. Calculate, showing working below:
 - a) $321 \cdot 4 - 22 \cdot 71$
 - b) $156 \cdot 3 \times 5$
 - c) 6% of £15
 - d) $\frac{3}{8}$ of 352 m
 - e) $76 \cdot 4 \div 4$
 - f) 75% of 164

2. Plot and label the following points on a diagram:
A (3,4) B(-2,-5) C(-4,3) D(3,-4)

3. Calculate:
 - a) $3 \cdot 66 \times 10$
 - b) $14 \cdot 3 \div 10$
 - c) $16 \cdot 2 \times 300$
 - d) $67 \div 200$

4. Simplify:
 - a) $5x + 2 - 3x - 1$
 - b) $10ab + 3a - 4ab$
 - c) $6y + 4x - 5y + 3x$

Problem Solving 1



The first nine holes of Lochview Golf Course average 355 yards in length. The second nine average 384 yards. Calculate:

- a) the total length of the course
- b) the average length of a hole

S2 Non Calculator Weekly Homework 2

- Solve the following equations:
 - $4y + 7 = 11$
 - $4 = 12 - 2x$
 - $3a + 2 = 2a + 5$
- Calculate, showing working below:
 - 30% of 160
 - 3% of £27
 - $\frac{4}{7}$ of £28
 - $\frac{2}{5}$ of £14
- Simplify these ratios:
 - 12:16
 - 3:9
 - 26:14
- How long is it from:
 - 3.26 am to 5.45 am
 - 1640 to 2120
- Change the following to grams:
 - 2.5 kg
 - 13.2 kg
 - 0.05 kg

Problem Solving 2



Nicola is writing a 2000 word essay. So far she has written 1250 words.

- How many words has she still to write?
- She writes 250 words per page. How many pages does her essay take?

S2 Non Calculator Weekly Homework 3

1. Simplify:

a) $5x - 3x + x - 8$

b) $3a - 4b + 6b - b$

c) $3 + 4ab - 1 - 4ab$

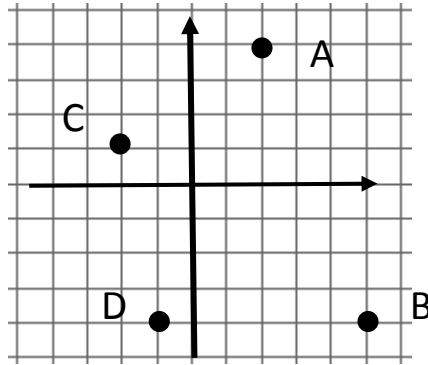
2. Solve the following equations:

a) $4a + 7 = a + 10$

b) $3y - 2 = y + 6$

c) $4 - 3x = 1$

3. Write down the coordinates of the points A, B, C and D



4. Calculate, showing your working:

a) 8% of £17

b) 25% of £28.40

c) 80% of £130

Problem Solving 3

Calum, Saeed and Jamie order different meals in a café, but agree to share the cost of £16 equally.

How much should each pay? (Round your answer appropriately)

S2 Non Calculator Weekly Homework 4

1. Solve the following equations:

a) $5x + 3x - 10 = 2x + 2$

b) $3y + 16 = 6y - 1$

c) $12 - 4a = a - 3$

2. Calculate, showing your working:

a) 30% of 210

b) $\frac{3}{7} \times 840$

c) $26.1 - 3.02 + 12$

3. Write each sum of money to the nearest £10:

a) £543

b) £69

c) £54654

4. Round to 2 decimal places:

a) 1.664

b) 12.365

c) 36.7149

5. Calculate:

a) $4 + 6 \times 2$

b) $12 - 3 \times 4$

c) $9 - (8 - 3)$

Problem Solving 4

In a television quiz you score 2 for a correct answer and -2 for a wrong answer. Calculate these scores:

a) Sally: 10 correct, 5 wrong

b) Sean: 6 correct, 9 wrong

S2 Non Calculator Weekly Homework 5

1. Simplify:

a) $15x - 3xy + 4x$

b) $2a - 13 + 7a + 21$

c) $2y + 3x - 2y - x$

2. Solve the following equations:

a) $12t - 22 = 5t - 1$

b) $12 - 3x = x + 4$

c) $3a - 1 = a + 7$

3. Calculate, showing all working:

a) $13 \cdot 3 + 31 + 5 \cdot 09$

b) $16 \cdot 5 - 2 \cdot 58$

c) $12 \cdot 6 - 3 \cdot 19 + 2$

d) $3 \cdot 447 \times 100$

e) $12 \cdot 33 \div 10$

f) $2 \cdot 45 \times 50$

4. Round to 3 significant figures:

a) $12 \cdot 33$

b) $149 \cdot 6$

c) $35 \cdot 465$

c) $2 \cdot 009$

Problem Solving 5



A racing car completed laps in 61.3, 58.7, 59.2, 57.9 and 56.8 seconds.

Calculate the average lap time, to the nearest tenth of a second.

S2 Non Calculator Weekly Homework 6

- Calculate, showing working below:
 - $305 - 22.71$
 - 156.4×50
 - 7% of £85
 - $\frac{5}{7}$ of 336 m
 - $76.4 \div 8$
 - 45% of 164
- Plot and label the following points:
A(5,2) B(1,4) C(-4,2) D(4,0)
- Calculate:
 - 3.66×400
 - $14.3 \div 40$
 - 34.7×20
- Simplify:
 - $5x - 2 - 4x - 1$
 - $10ab - 2b - 4ab$
 - $6y + 7x - 2y + 3x$

Problem Solving 6

Joshua and Mark share £560 in the ratio 4:3. Joshua is given £300, is this correct?

S2 Non Calculator Weekly Homework 7

- Solve the following equations:
 - $3y + 6 = 33$
 - $0 = 12 - 2x$
 - $5a + 6 = 2a + 15$
- Calculate, showing working below:
 - 70% of 240
 - 8% of £56
 - $\frac{7}{9}$ of £36
 - $\frac{2}{5}$ of £65
- Simplify these ratios:
 - 34:16
 - 6:24
 - 26:13
- How long is it from:
 - 3.38 am to 5.45 am
 - 1634 to 2105
- Change the following to grams:
 - 1.5 kg
 - 35.2 kg
 - 0.08 kg

Problem Solving 7

Which is greater 2^5 or 5^2 ?

S2 Non Calculator Weekly Homework 8

1. Simplify:

a) $5x - 3x + 2x - 10$

b) $13a - 14b + 6b - b$

c) $3 + 4ab - 4 - 4ab$

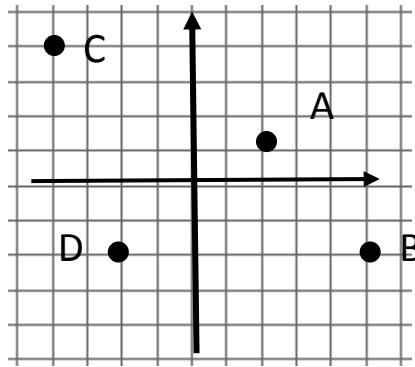
2. Solve the following equations:

a) $4a + 23 = a + 44$

b) $2y - 2 = y + 8$

c) $14 - 6x = 2$

3. Write down the coordinates of the points A, B, C and D.



4. Calculate, showing working below:

a) 9% of £67

b) 25% of £32

c) 80% of £250

Problem Solving 8

The day after tomorrow is Tuesday 3rd April.

What is the day and date of the day before yesterday?

S2 Weekly Non Calculator Homework 9

- Simplify
 - $6(2x - 4)$
 - $2(4a - 6) + 3(a + 1)$
 - $x(x + 5)$
- Calculate, showing working:
 - $14 - 25 + 17$
 - $34 - 5 \times 3$
 - $(26.1 - 3.02) \times 3$
- Write each sum of money to the nearest £10:
 - £861
 - £55
 - £3829
- Round to 2 decimal places:
 - 4.287
 - 37.215
 - 5.8387
- Calculate:
 - $24 - 3 \times 9$
 - $5 - 3 \times 4$
 - $9 - (4+2)$

Problem Solving 9

Inside a room 36 legs were counted.

If there are 6 dogs in the room, how many people were there?

S2 Weekly Non Calculator Homework 10

1. Simplify:
 - a) $15x - 3xy + 4x$
 - b) $2a - 13 + 7a + 21$
 - c) $2y + 3x - 2y - x$
2. Solve the following equations:
 - a) $12t - 22 = 5t - 1$
 - b) $12 - 3x = x + 4$
 - c) $3a - 1 = a + 7$
3. Calculate, showing all working:
 - a) $300 - 2.7$
 - b) $41.5 - 9.4$
 - c) 2.9×5.4
 - d) 7.927×100
 - e) $2.82 \div 10$
 - f) $52 \div 400$
4. Round to 3 significant figures:
 - a) 58.02
 - b) 196.29
 - c) 9.526
 - d) 19.999999

Problem Solving 10

Jack wakes up 20 minutes before John.

John wakes up 30 minutes after Sue.

Sue wakes up at 7.20am.

When does Jack wake up?

S2 Non Calculator Weekly Homework 11

1. Calculate:
a) 75% of £376 b) 30% of £16 c) 7% of £35
2. Solve the following equations:
a) $5x + 6 = 2x + 12$ b) $3y - 8 = 8y + 13$
3. Calculate:
a) $12 \cdot 3 + 7 \times 3 \cdot 1$ b) $34 \times 7 - 18$
4. Simplify:
a) $5(2a + 4) + 6$ b) $5(x - 3) + 2(3x + 1)$

Problem Solving 11

A music “jingle” on the radio lasted $12\frac{1}{4}$ seconds.

The new replacement jingle lasts $1\frac{3}{4}$ times as long as this.

For how long does the new jingle last?

S2 Non Calculator Weekly Homework 12

1. Calculate:

a) $\frac{2}{5}$ of £35

b) $\frac{5}{8} \times 24$

c) $12 \times \frac{1}{6}$

2. Solve the following equations:

a) $3(2x + 1) = 15$

b) $2(5y + 3) = 36$

3. If $a = -3$ and $b = 5$ find the value of :

a) $2a + 3b$

b) $4a^2$

c) $b - 3a$

4. Calculate:

a) 24×42

b) $24 \cdot 6 \times 200$

c) $34 \cdot 56 \div 40$

Problem Solving 12



Each cat eats one tin of cat food every day. A tin of cat food costs 38p.

What is the September bill for two cats?

S2 Non Calculator Weekly Homework 13

- Calculate:
 - 60% of 156
 - 8% of £15
 - 25% of £18
- Solve the following equations:
 - $5a - 8 = a + 16$
 - $3x + 14 = 6x + 5$
- Find the value of:
 - $\frac{3}{7}$ of 21
 - $\frac{5}{8}$ of 64 cm
 - $\frac{3}{4} \times \frac{4}{5}$
- If $t = -5$ and $s = -4$, find the value of:
 - $2t + 5s$
 - $t(2s + 5)$
 - $t + 3s$
 - t^2
 - $3s^2$
 - $(2t)^2$

Problem Solving 13



9 classes of 27 pupils and 9 teachers are going to a prize giving in the school theatre. The janitor puts out 21 rows of 13 chairs. Is this the correct number or are there empty seats?

S2 Non Calculator Weekly Homework 14

1. Calculate:

a) $-4 + (-7) - (-5)$

b) $8 + (-6) + (-7)$

c) $-10 \times (-6)$

2. Simplify the following expressions:

a) $2(3x + 6) + 3(5x - 4)$

b) $3(4a + 3) - (5a + 3)$

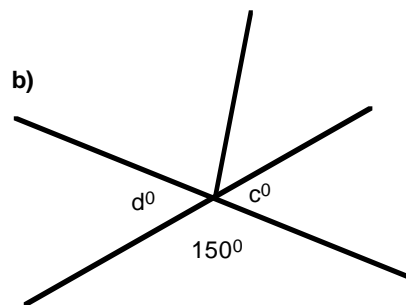
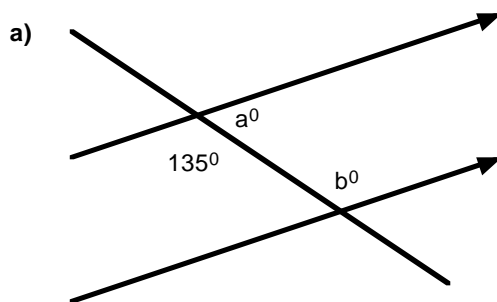
3. Calculate:

a) $12 \cdot 3 + 16 \cdot 4 - 8 \cdot 91$

b) $13 \cdot 2 \times 61$

c) $18 \cdot 3 \div 5$

4. Calculate the sizes of the marked angles:



5. Calculate:

a) $-3 \times 5 \times (-2)$

b) $-5 \times (-8) \times (-1)$

Problem Solving 14



Lamp posts are being put along one side of a straight road 380 m long.

They have to be placed 20 m apart, with one at each end.
How many are needed?

S2 Non Calculator Weekly Homework 15

1. Solve the following equations:

a) $5(2x + 4) = 30$

b) $4(x - 2) = 24$

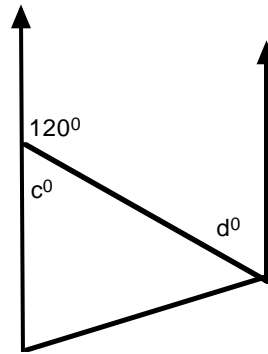
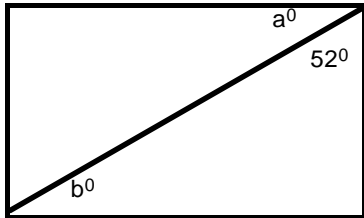
2. Calculate:

a) 331×24

b) 17.4×300

c) $189 \div 5$

3. Find the size of the marked angles:



4. Calculate:

a) $\frac{3}{5}$ of 256

b) $\frac{5}{8}$ of 64

c) $\frac{2}{3} \times 18$

Problem Solving 15

A batsman played in 29 cricket matches. He scored an average of 47 runs per game. Calculate the total number of runs he made.

S2 Non Calculator Weekly Homework 16

1. Calculate:

a) 75% of 438

b) 40% of 421

c) 3% of 65

2. Solve the following equations:

a) $6x + 2 = 3x - 10$

b) $2y + 9 = 5y - 3$

3. Calculate:

a) $18 - 12.5 \div 5$

b) $3 \times 1.5 - 0.8 \div 2$

4. Simplify:

a) $3(2x + 4) - 4(x + 2)$

b) $5(3x + 1) - 2(2x - 3)$

5. Evaluate:

a) $\frac{2}{3} + \frac{5}{6}$

b) $5\frac{1}{2} - \frac{3}{4}$

c) $1\frac{1}{4} + 2\frac{3}{8}$

Problem Solving 16



In light traffic I can complete my 10 mile journey home at an average speed of 40 mph. In heavy traffic my average speed is only 15 mph.

How much longer does it take to get home on a day with heavy traffic?

S2 Non Calculator Weekly Homework 17

1. Calculate:

a) $\frac{4}{5} \times \frac{5}{8}$

b) $\frac{5}{8} \times 20$

c) $27 \times \frac{7}{9}$

2. Solve the following equations:

a) $5(3x + 1) = 20$

b) $4(2x - 7) = 4$

3. If $p = 3$ and $q = -4$ find the value of :

a) $2p^2 + 3q$

b) $3pq - 2q$

c) $20 - p^2$

4. Calculate:

a) 653×32

b) 23.45×20

c) $46.53 \div 300$

5. Evaluate:

a) $23 - 5 \times 2$

b) $14 \times 2 - 20$

c) $4 \times (3 + 5)$

Problem Solving 17



A rectangular lawn is 20m long by 12m broad. If the length is increased by 50% and the breadth is increased by 25%, by what percentage is the area of the lawn increased?

S2 Non Calculator Weekly Homework 18

- Calculate:
a) 70% of £666 b) 4% of 37 c) 75% of 104
- Solve the following equations:
a) $6x + 3 = 2x - 9$ b) $5a + 2 = 7a - 8$
- Find the value of:
a) $\frac{3}{5}$ of £12 b) $\frac{2}{7}$ of 21 m c) $\frac{5}{6} \times \frac{3}{5}$
- If $a = -5$ and $b = 3$, find the value of:
a) $3a + 2b$ b) $4a^2 - 2b$ c) $3ab^2$
- Calculate:
a) $\frac{4}{5} + 3\frac{3}{4}$ b) $1\frac{5}{8} - \frac{3}{4}$ c) $5\frac{3}{8} + 2\frac{1}{4}$

Problem Solving 18



A book originally contained 240 pages, with an average of 300 words per page. When it was reprinted with smaller type, 360 words per page were set. How many pages were needed?

S2 Non Calculator Weekly Homework 19

1. Calculate:

a) $3 + (-8) - (-6)$

b) $-8 - (-4) + (-2)$

c) $-5 \times (-4) \times (-1)$

2. Simplify the following expressions:

a) $4(2x + 3) + 6(2x + 5)$

b) $3(3a - 1) - 2(8a + 3)$

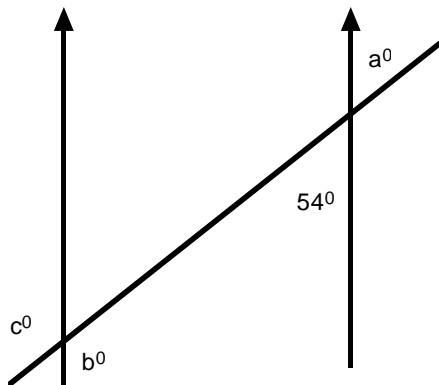
3. Calculate:

a) $13.2 + 2.43 - 10.88$

b) 13.2×21

c) $14.4 \div 6$

4. Calculate the sizes of the marked angles:



5. Calculate:

a) $2 - 5 \times 6$

b) $14 + 2.4 \times 3$

Problem Solving 19



A fitted carpet for a room 4m by 3.5m costs £72. How much would the same kind of carpet cost for a room 3.5m by 3m?

S2 Non Calculator Weekly Homework 20

1. Solve the following equations:

a) $4(2x + 4) = 12$

b) $3(x - 5) = 12$

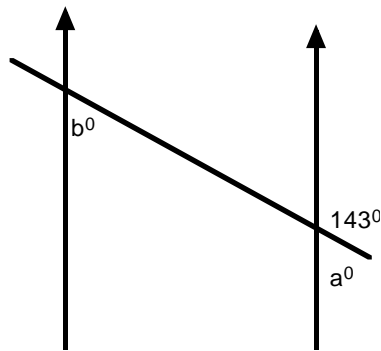
2. Calculate:

a) 652×54

b) 158.2×40

c) $16.04 \div 4$

3. Find the size of the marked angles:



4. Calculate:

a) $\frac{2}{5}$ of £23

b) $\frac{5}{8}$ of 32

c) $\frac{3}{8} \times 24$

Problem Solving 20



Five people won £154 each in a competition. Two other claimed that they should share the prize. How much would each person receive in this case?