Name: _____

GCSE (1 – 9)

Calculation Problems

Instructions

- Use **black** ink or ball-point pen.
- Answer all questions.
- Answer the questions in the spaces provided
– *there may be more space than you need.*
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- You must **show all your working out.**

Information

- The marks for each question are shown in brackets
– *use this as a guide as to how much time to spend on each question.*

Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end

1   Amelia wants to buy 6 sausage rolls.

Each sausage roll costs 84p

Amelia pays with a £20 note.

(a) Work out how much change Amelia will get from £20.

$$\begin{array}{r} 84 \\ \times 6 \\ \hline 5\underset{2}{0}4 \end{array}$$

$$20 - 5.04$$

£ _14.96_

(2)

(b) When in the shop Amelia finds out that the price of the sausage rolls has been increased.

How does this affect the amount of change she will get?

She will get less change

(1)

(Total for question 1 is 3 marks)

2   Ava wants to buy as many chocolate bars as she can.

She has £5 to spend on chocolate bars.

Each chocolate bar costs £0.35

Work out how much change Ava will get from £5.

35
70
105
140

$$35 \overline{\smash{\big)}\,50\,^{15}0.^{10}0}\quad 14.2$$

she buys 14 chocolate bars

$$\begin{array}{r} 35 \\ \times 14 \\ \hline 1\,4\,0 \\ 3\underset{2}{5}0 \\ \hline 4\,9\,0 \end{array}$$ £4.90

£5 — £4.90

£ _0.10_

(Total for question 2 is 3 marks)

3 Mason wants to buy 6 pens.

Each pen costs 28p

Mason pays with a £10 note.

(a) Work out how much change Mason will get from £10.

$$\begin{array}{r} 28 \\ \times\ 6 \\ \hline 1\ 6\ 8 \\ {}_4 \end{array}$$

$$£10 - £1.68$$

£ 8.32

(2)

(b) When in the shop Mason finds out that the price of the pens has been reduced.

How does this affect the amount of change he will get?

He will get more change

(1)

(Total for question 3 is 3 marks)

4 Mr Blair buys 30 pens, 30 rulers, 30 pencils and 30 calculators.

Price List	
Pens	5 for 85p
Rulers	10 for £2.64
Pencils	6 for 52p
Calculators	£6.25 each

6×85
3×264
5×52
30×6.25
625

What is the total amount of money Mr Blair spends?

$$\begin{array}{r} 85 \\ \times\ 6 \\ \hline 5\ {}_3 1\ 0 \end{array}$$

$$\begin{array}{r} 264 \\ \times\ 3 \\ \hline 7\ 9\ 2 \\ {}_1\ {}_1 \end{array}$$

$$\begin{array}{r} 52 \\ \times\ 5 \\ \hline 2{,}60 \end{array}$$

$$\begin{array}{r} 625 \\ \times\ 30 \\ \hline 18750 \\ {}_1 \end{array}$$

$$\begin{array}{r} 18750 \\ 792 \\ 260 \\ +\ \ \ 510 \\ \hline 20312 \\ {}_2\ {}_2 \end{array}$$

£ 203.12

(Total for question 4 is 5 marks)

5 Mo buys a car.

The total cost of the car is £6000

Mo pays a deposit of £900
Her then pays 12 equal monthly payments.

How much is each monthly payment?

$$6000 - 900 = £5100$$

$$12 \overline{\smash)5 1^3 0^6 0} ^{425}$$

£ 425

(Total for question 5 is 2 marks)

6 Liam goes to a Cafe.
He buys
  3 coffees for £1.60 each
  2 teas for £1.10 each
  5 cakes for £2.15 each

Work out the total amount that Liam spends.

$$\begin{array}{r} 160 \\ \times 3 \\ \hline 480 \end{array} \qquad \begin{array}{r} 110 \\ \times 2 \\ \hline 220 \end{array} \qquad \begin{array}{r} 215 \\ \times 5 \\ \hline 1075 \end{array}$$

$$\begin{array}{r} 1075 \\ 220 \\ 480 \\ \hline 1775 \end{array}$$

£ 17.75

(Total for question 6 is 2 marks)

7 David buys 3 pens and 5 pencils from the stationary shop.
The total cost is £1.15.

James buys 4 pens for £1.20.

Work out how much it would cost to buy 1 pen and 2 pencils.

$$\frac{120}{4} = 30p \text{ for a pen}$$

$$3 \times 30 = 90p$$

$$£1.15 - 90p = 25p$$

$$\frac{25}{5} = 5p \text{ per pencil}$$

$$30 + 2(5)$$

£ 0.40

(Total for question 7 is 3 marks)

8 2 calculators cost £10.40   × 15
3 pens cost £3.54   × 10

Jude wants to buy 30 calculators and 30 pens.
He only has £200

Does Jude have enough money to buy 20 pens and 20 folders?
You must show how you get your answer.

```
  1 0 4 0
  ×   1 5
  ---------
  5 2 0 0
1 0 4 0 0
  ---------
1 5 6 0 0
```

$$3.54 \times 10 = 35.4$$

```
1 5 6 . 0 0
+ 3 5 . 4 0
-----------
1 9 1 . 4 0
```

£191.40   YES

(Total for question 15 is 4 marks)

9 A piece of string is 350 cm long.

John cuts three 40 cm lengths off the string. $3 \times 40 = 120$

He then cuts the rest into as many 35 cm lengths as possible.

Work out how many 35 cm lengths of string John cuts.

$350 - 120 = 230$ cm

35
70
105
140
175
(210)
245

6

(Total for question 9 is 3 marks)

10 Molly gets paid £9.20 for each hour she works from Monday to Friday.
She gets paid £11.40 for each hour she works on Saturday.

Last week Molly works 12 hours from Monday to Friday and 4 hours on Saturday.

Show that Molly was paid more than £150 last week.

```
    9 2 0            1 1 4 0
  x   1 2          x       4
  1 8 4 0          4 5 6 0
  9 2 0 0
1 1 0 4 0
```

```
  1 1 0 4 0
+   4 5 6 0
  1 5 6 0 0
```

£156 > £150

(Total for question 10 is 3 marks)

11 Aiden wants to buy a chocolate bar for every student in year 7.

There are 110 students in year 7.

A pack of 6 chocolate bars costs £1.20

Work out how much Aiden will have to pay for the chocolate bars.

$$18.3$$
$$6 \overline{)11^50.^20}$$

19 PACKS

$$
\begin{array}{r}
1 \ 2 \ 0 \\
\times \ 1 \ 9 \\
\hline
1 \ 0 \ 8 \ 0 \\
1 \ 2 \ 0 \ 0 \\
\hline
2 \ 2 \ 8 \ 0 \\
\end{array}
$$

£ 22.80

(Total for question 11 is 3 marks)

12 Noah and Mia saved a total of £482.
Mia saved £34 more than Noah.

How much did Noah save?

$$\frac{34}{2} = 17 \qquad \frac{482}{2} = 241$$

$$
\begin{array}{r}
2 \ \overset{3}{4} \ \overset{1}{1} \\
- \ 1 \ 7 \\
\hline
2 \ 2 \ 4 \\
\end{array}
$$

£ 224

(Total for question 12 is 2 marks)

13 Abigail has boiled a kettle.
She has 1.7 litres of water.   1700 ml

Abigail want to make as many cups of teas as possible.
For each cup of tea she needs 200ml of water.

How many cups of tea an Abigail make?

$$200$$
$$400$$
$$600$$
$$800$$
$$1000$$
$$1200$$
$$1400$$
$$\boxed{1600}$$
$$1800$$

............8..............

(Total for question 13 is 3 marks)

14 A shop sells washing powder in 650g packs.

Jacob has no washing powder.
He estimates that he does 2 washes a week, using 40g each wash.   80g a week

Jacob wants to buy enough washing powder for 13 weeks.

How many packs of washing powder does Jacob need to buy?

```
    80
  x 13
  ----
   240
   800
  ----
  1040
```

1040 grams

```
   650
  1300
```
(circled)

............2............

(Total for question 14 is 3 marks)