

Name: _____

GCSE (1 – 9)

Addition and Subtraction

Instructions

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1 Work out $254 + 87$

$$\begin{array}{r} 254 \\ + 87 \\ \hline 341 \end{array}$$

341

(Total for Question 1 is 2 marks)

2 Work out $1582 + 357$

$$\begin{array}{r} 1582 \\ + 357 \\ \hline 1939 \end{array}$$

1939

(Total for Question 2 is 2 marks)

3 Work out $2860 - 613$

$$\begin{array}{r} 28\overset{5}{\cancel{6}}\overset{1}{\cancel{0}} \\ - 613 \\ \hline 2247 \end{array}$$

2247

(Total for Question 3 is 2 marks)



- 4 Work out $1652 + 304 + 85$

$$\begin{array}{r} 1652 \\ 304 \\ + \quad 85 \\ \hline 2041 \end{array}$$

2041

(Total for Question 4 is 2 marks)

- 5 Work out $63 - 21.4$

$$\begin{array}{r} 63.0 \\ - 21.4 \\ \hline 41.6 \end{array}$$

41.6

(Total for Question 5 is 2 marks)

- 6 Work out $\text{£}30 - \text{£}18.49$

$$\begin{array}{r} 30.00 \\ - 18.49 \\ \hline 11.51 \end{array}$$

£ 11.51

(Total for Question 6 is 2 marks)



7 Work out $58.26 + 3.79$

$$\begin{array}{r} 58.26 \\ + 3.79 \\ \hline 62.05 \end{array}$$

62.05

(Total for Question 7 is 2 marks)

8 Work out $62 - 18.1$

$$\begin{array}{r} 5 \quad 11 \quad 1 \\ 62.0 \\ - 18.1 \\ \hline 43.9 \end{array}$$

43.9

(Total for Question 8 is 2 marks)

9 Work out $\pounds 5.95 + \pounds 12.49$

$$\begin{array}{r} 12.49 \\ + 5.95 \\ \hline 18.44 \end{array}$$

£18.44

(Total for Question 9 is 2 marks)



10 Work out $15.2 + 26 - 3.74$

$$\begin{array}{r} 15.2 \\ + 26.0 \\ \hline 41.2 \end{array}$$

$$\begin{array}{r} \overset{10}{\cancel{4}8\overset{11}{\cancel{2}}0} \\ - 3.74 \\ \hline 37.46 \end{array}$$

37.46

(Total for Question 10 is 2 marks)

11 Work out $63.1 + 28.74 - 19$

$$\begin{array}{r} 63.10 \\ + 28.74 \\ \hline 91.84 \end{array}$$

$$\begin{array}{r} \overset{8}{\cancel{9}1}84 \\ - 19.00 \\ \hline 72.84 \end{array}$$

72.84

(Total for Question 11 is 2 marks)

12 Work out $5.4 + 13.62 + 265 - 29.3$

$$\begin{array}{r} 5.40 \\ 13.62 \\ + 265.00 \\ \hline 284.02 \end{array}$$

$$\begin{array}{r} \overset{27}{\cancel{2}8}\overset{13}{\cancel{4}}02 \\ - 29.30 \\ \hline 254.72 \end{array}$$

254.72

(Total for Question 12 is 2 marks)



- 13 Work out $84.6 - 15.32 - 9.17 + 26.4$

$$\begin{array}{r} 74.60 \\ - 15.32 \\ \hline 69.28 \end{array}$$

$$\begin{array}{r} 69.28 \\ - 9.17 \\ \hline 60.11 \end{array}$$

$$\begin{array}{r} 60.11 \\ + 26.40 \\ \hline 86.51 \end{array}$$

86.51

(Total for Question 13 is 2 marks)

- 14 Work out $180 - 26.3 - 15.27 - 8.14$

$$\begin{array}{r} 180.00 \\ - 26.30 \\ \hline 153.70 \end{array}$$

$$\begin{array}{r} 153.70 \\ - 15.27 \\ \hline 138.43 \end{array}$$

$$\begin{array}{r} 138.43 \\ - 8.14 \\ \hline 130.29 \end{array}$$

130.29

(Total for Question 14 is 2 marks)

- 15 Work out $52 - 14.84 + 29.6 - 5.7$

$$\begin{array}{r} 52.00 \\ - 14.84 \\ \hline 37.16 \end{array}$$

$$\begin{array}{r} 37.16 \\ + 29.60 \\ \hline 66.76 \end{array}$$

$$\begin{array}{r} 66.76 \\ - 5.70 \\ \hline 61.06 \end{array}$$

61.06

(Total for Question 15 is 2 marks)



Name: _____

GCSE (1 – 9)

Factors, Multiples and Primes

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mathsgenie.co.uk



- 1 Write down a multiple of 7 that is between 20 and 30

21 [or 28]

(Total for question 1 is 1 mark)

- 2 Write down the first even multiple of 9

18

(Total for question 2 is 1 mark)

- 3 Write down a multiple of 9 that is between 30 and 50

36, 45

36 [or 45]

(Total for question 3 is 1 mark)

- 4 Write down a prime number between 25 and 35

29 [or 31]

(Total for question 4 is 1 mark)

- 5 Write down two factors of 18

1, 18

2, 9

3, 6

(Any 2)

3 and 9

(Total for question 5 is 2 marks)



6 Write down all the prime numbers between 20 and 30

23 and 29
(Total for question 6 is 2 marks)

7 Write down two multiples of 10

10, 20, 30, 40, 50...

10 , 20
(Total for question 7 is 2 marks)

8 Here is a list of numbers.

15 19 25 31 35 39 40

From the numbers on the list,

(a) write down an even number

40
(1)

(b) write down a multiple of 7

35
(1)

(Total for question 8 is 2 marks)

9 Write down two multiples of 8

8, 16, 24, 32, 40...

8 , 16
(Total for question 9 is 2 marks)



10 Write down all the factors of 14

1, 14

2, 7

1, 2, 7 and 14
(Total for question 10 is 2 marks)

11 Write down all the factors of 20

1, 20

2, 10

4, 5

1, 2, 4, 5, 10 and 20
(Total for question 11 is 2 marks)

12 Here is a list of numbers.

30 31 32 33 34 35 36 37 38 39

From the numbers on the list,

(a) write down a ~~an~~ square number

36
(1)

(b) write down a multiple of 8

32
(1)

(c) write down all of the prime numbers on the list.

31 and 37
(1)

(Total for question 12 is 3 marks)



13 Here is a list of numbers.

2 9 11 15 18 31 32

From the numbers on the list,

(a) write down a factor of 8

2
(1)

(b) write down a multiple of 6

18
(1)

(c) write down all of the prime numbers on the list.

2, 11 and 31
(1)

(Total for question 13 is 3 marks)

14 Write down all of the prime numbers between 10 and 20

11, 13, 17 and 19
(Total for question 14 is 2 marks)

15 Write down two multiples of 20

20, 40, 60, 80, 100...

20 , 40
(Total for question 15 is 2 marks)

16 Write down all the factors of 16

1, 16
2, 8
4

1, 2, 4, 8 and 16
(Total for question 16 is 2 marks)



- 17 Ian says: "21 is a prime number"

Is Ian correct?

You must give a reason for your answer.

1, 21
3, 7

No 21 has four factors - prime numbers have only two factors

(Total for question 17 is 1 mark)

- 18 Here is a list of numbers.

3 5 9 16 19 27 28

From the numbers on the list,

- (a) write down a factor of 12

3

(1)

- (b) write down a multiple of 7

28

(1)

- (c) write down all of the prime numbers on the list.

3, 5 and 19

(1)

(Total for question 18 is 3 marks)

- 19 Gary is thinking of a number.

He says,

"My number is prime and it is a factor of 36"

There are two possible numbers Gary can be thinking of.

Write down these two numbers.

1, 36
2, 18
3, 12
4, 9
6

2 3

(Total for question 19 is 2 marks)



20 Write down two prime numbers that have a sum of 30

Prime numbers : 2, 3, 5, 7, 11, 13, 17, 19
23, 29

7 and 23
11 and 19

13 and 17

7 , 23

(Total for question 20 is 2 marks)

21 Write down two prime numbers that have a sum of 19

2 , 17

(Total for question 21 is 2 marks)

22 Here is a list of numbers.

8 12 15 17 23 27 32

From the numbers on the list,

(a) write down a factor of 16

8

(1)

(b) write down a multiple of 9

27

(1)

(c) write down all of the prime numbers on the list.

17 and 23

(1)

(Total for question 22 is 3 marks)



- 23 Barry is thinking of a number.
He says,

"My number is even. It is a factor of 30 and a multiple of 5"

There are two possible numbers Barry can be thinking of.

Write down these two numbers.

1, 30
2, 15
3, 10
5, 6

10 30

(Total for question 23 is 3 marks)

- 24 Paul is thinking of a number.
He says,

"My number is odd. It is a factor of 18 and a multiple of 3"

There are two possible numbers Paul can be thinking of.

Write down these two numbers.

1, 18
2, 9
3, 6

3 9

(Total for question 24 is 3 marks)



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GCSE (1 – 9)

Multiplication and Division

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1 Work out 254×7

$$\begin{array}{r} 254 \\ \times 7 \\ \hline 1778 \end{array}$$

1778

(Total for Question 1 is 2 marks)

2 Work out $258 \div 6$

6
12
18
24
30
36
42
48
54
60

$$\begin{array}{r} 043 \\ 6 \overline{) 258} \end{array}$$

43

(Total for Question 2 is 2 marks)

3 Work out $1168 \div 8$

8
16
24
32
40
48
56
64
72
80

$$\begin{array}{r} 0146 \\ 8 \overline{) 1168} \end{array}$$

146

(Total for Question 3 is 2 marks)



4 Work out 672×4

$$\begin{array}{r} 672 \\ \times 4 \\ \hline 2688 \end{array}$$

2688

(Total for Question 4 is 2 marks)

5 Work out 813×5

$$\begin{array}{r} 813 \\ \times 5 \\ \hline 4065 \end{array}$$

4065

(Total for Question 5 is 2 marks)

6 Work out $582 \div 6$

6
12
18
24
30
36
42
48
54
60

$$\begin{array}{r} 097 \\ 6 \overline{) 5842} \end{array}$$

97

(Total for Question 6 is 2 marks)



7 Work out 58×46

$$\begin{array}{r}
 58 \\
 \times 46 \\
 \hline
 348 \\
 + 2320 \\
 \hline
 2668
 \end{array}$$

2668

(Total for Question 7 is 2 marks)

8 Work out $33.84 \div 9$

9
18
27
36
45
54
63
72
81
90

$$\begin{array}{r}
 03.76 \\
 9 \overline{) 33.84}
 \end{array}$$

3.76

(Total for Question 8 is 2 marks)

9 Work out 74.25×3

$$\begin{array}{r}
 74.25 \\
 \times 3 \\
 \hline
 222.75
 \end{array}$$

$$7425 \times 3 = 22275$$

$$74.25 \times 3 = 222.75$$

222.75

(Total for Question 9 is 2 marks)



10 Work out $71.2 \div 0.4$

$$\frac{71.2}{0.4} = \frac{712}{4}$$

$$\begin{array}{r} 178 \\ 4 \overline{) 7132} \end{array}$$

178

(Total for Question 10 is 2 marks)

11 Work out 13.9×7

$$\begin{array}{r} 139 \\ \times 7 \\ \hline 263 \end{array}$$

$$139 \times 7 = 973$$

$$13.9 \times 7 = 97.3$$

97.3

(Total for Question 11 is 2 marks)

12 Work out $18.6 \div 0.8$

$$\frac{18.6}{0.8} = \frac{186}{8}$$

$$\begin{array}{r} 23.25 \\ 8 \overline{) 186.200} \end{array}$$

23.25

(Total for Question 12 is 2 marks)



13 Work out 37.1×9.3

$$\begin{array}{r} 37.1 \\ \times 9.3 \\ \hline 1113 \\ 33390 \\ \hline 34503 \end{array}$$

345.03

(Total for Question 13 is 2 marks)

14 Work out $29.1 \div 4$

$$\begin{array}{r} 07.275 \\ 4 \overline{) 29.100} \end{array}$$

7.275

(Total for Question 14 is 2 marks)

15 Work out 9.06×7.9

$$\begin{array}{r} 906 \\ \times 79 \\ \hline 8154 \\ 63420 \\ \hline 71574 \end{array}$$

71.574

(Total for Question 15 is 2 marks)



- 1 Change 2580 grams to kilograms.

..... 2.58 kg

(Total for question 1 is 1 mark)

- 2 Change 1.6 kilometres to metres.

..... 1600 m

(Total for question 2 is 1 mark)

- 3 Change 48 cm to mm.

..... 480 mm

(Total for question 3 is 1 mark)

- 4 Change 520 millilitres to litres

..... 0.52 litres

(Total for question 4 is 1 mark)

- 5 Change 0.87 kilograms to grams.

..... 870 grams

(Total for question 5 is 1 mark)

- 6 Change 640 cm to metres.

..... 6.4 metres

(Total for question 6 is 1 mark)



7 Change 25 metres to cm.

..... 2500 cm

(Total for question 7 is 1 mark)

8 Change 800 metres to kilometres.

..... 0.8 km

(Total for question 8 is 1 mark)

9 Change 75 mm to cm.

..... 7.5 cm

(Total for question 9 is 1 mark)

10 Change 2.5 litres to millilitres

..... 2500 millilitres

(Total for question 10 is 1 mark)

11 Change 920 millilitres to litres

..... 0.92 litres

(Total for question 11 is 1 mark)

12 Change 75 kilograms to grams.

..... 75000 grams

(Total for question 12 is 1 mark)



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GCSE (1 – 9)

Time

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- 1 Change 120 minutes to hours.

$$\frac{120}{60}$$

..... 2 hours

(Total for question 1 is 1 mark)

- 2 Change 4 hours to minutes.

$$4 \times 60$$

..... 240 minutes

(Total for question 2 is 1 mark)

- 3 Work out the difference, in minutes, between 55 minutes and $1\frac{3}{4}$ hours.

1 hour 45 mins

$$60 + 45 = \underline{105}$$

$$105 - 55$$

..... 50 minutes

(Total for question 3 is 2 marks)

- 4 Work out the difference, in minutes, between 2 hour 25 minutes and $1\frac{1}{2}$ hours.

$$2 \times 60 + 25$$

$$120 + 25$$

$$= 145$$

1 hour 30 mins

$$60 + 30$$

$$= 90$$

$$145 - 90$$

..... 55 minutes

(Total for question 4 is 2 marks)



- 5 Hayley left her home at 10.40 am. $+14 \text{ mins}$

She walked from her home to the shop.
It took her 14 minutes to walk to the shop.

Hayley was at the shop for 10 minutes.

Then Hayley walked from the shop to her friends house.
It took Hayley 22 minutes to walk to her friends house.

What time did Hayley arrive at her friends house?

10 54

11 04

$+10 \text{ mins}$

$+22 \text{ mins}$

11 26

11.26 am

(Total for question 5 is 2 marks)

- 6 A film starts at 7.45 pm.
The film lasts 98 minutes.

What time does the film finish?

60 mins + 38 mins

7.45

$+60 \text{ mins}$

8.45

$+15 \text{ mins}$

9.00

$+23 \text{ mins}$

9.23

9.23 pm

(Total for question 6 is 2 marks)

- 7 Natalie drives from London to Sheffield.

Natalie leaves London at 9.15 am.

Natalie drives for $2\frac{1}{4}$ hours before stopping for a break.

$2 \text{ hours } 15 \text{ mins}$
The break lasts for 20 minutes.

Natalie then takes another 85 minutes to reach Sheffield.

What time does Natalie arrive in Sheffield?

11.30

11.50

12.50

13.15

13.15

(Total for question 7 is 2 marks)

[1.15 pm]



- 8 Here is part of a train timetable.

London St Pancras	0540	0618	0701	0755
Ebbsfleet	0558	-	-	0812
Ashford	0624	0655	-	-
Paris	0917	0947	1017	1117

- (a) A train leaves London St Pancras at 0618, how many minutes should it take to reach Paris?

0618 → 0947

0618 → 0918 → 0947
3 hours 29 mins

180 + 29 = 209 209 minutes
(1)

- (b) What is the difference, in minutes, between the time it takes for the 0540 train and the 0618 train from London St Pancras to reach Paris?

0540 → 0917

0540 → 0840 → 0917
3 hours 37 mins

3 hours 37 - 3 hours 29 8 minutes
(2)

Georgie lives in Ashford. She has to get to a meeting in Paris for 1030.

- (c) What is the time of the latest train she can get from Ashford?

0655

(1)
(Total for question 8 is 4 marks)



Here is part of a bus timetable.

Woolwich	0717	0724	0732	0739	0746
Woolwich Arsenal	0719	0726	0734	0741	0748
Plumstead Station	0725	0732	0740	0747	0754
Plumstead Corner	0730	0737	0745	0752	0759
Upper Wickham Lane	0737	0744	0752	0759	0806
Welling Corner	0743	0750	0758	0805	0813
Bexleyheath	0754	0801	0809	0817	0825
Crayford	0803	0811	0819	0827	0835
Dartford Station	0814	0823	0831	0839	0847
Darent Valley Hospital	0824	0833	0841	0849	0857
Bluewater	0828	0837	0845	0853	0901

- (a) A bus leaves Woolwich at 0724, how many minutes does this bus take to reach Bluewater?

0724 → 0837
 0724 → 0824 → 0837
 1 hour 13 mins
 60 + 13 73 minutes
 (1)

Jeff needs to get from Bexleyheath to Bluewater to start work at 9 am.

It takes Jeff 12 minutes to walk from his house to the bus stop in Bexleyheath.

It takes Jeff 8 minutes to walk from the bus station in Bluewater to his work.

- (b) What is the latest time Jeff can leave his house to get to work on time?

Must arrive at Bluewater at 0845

Bexleyheath bus at 0809

- 12 mins

0757

0757

(3)

(Total for question 9 is 4 marks)

7.57 am



10 Here is part of a train timetable.

London Marylebone	1410	1440	1510	1540
High Wycombe	1433	-	1534	-
Banbury	1506	1541	1608	1639
Leamington Spa	1524	1559	1626	1657
Warwick Parkway	1530	1606	1631	1705
Solihull	1544	1622	1644	1721
Birmingham Moor Street	1556	1632	1653	1735

(a) A train leaves London Marylebone at 1440, what time does it arrive in Birmingham Moor Street?

1632

(b) How many minutes should the 1410 train take to get from London Marylebone to Birmingham Moor Street?

(1)

1410 → 1510 → 1556
1 hour 46 mins

60 + 46 = 106

106

minutes
(1)

Millie goes from Banbury to Birmingham Moor Street on the train.

Millie takes 16 minutes to get from her house to the train station in Banbury.
She takes 20 minutes to get from Birmingham Moor Street station to her meeting.

Millie needs to get to the meeting by 5 pm.
Millie leaves her home at 3.15 pm.

(c) Does Millie get to her meeting by 5pm?
You must show all your working.

3.15 → 3.31 TRAIN AT 1541 ARRIVES AT 1632

+16
mins

1632 → 1652

+20
mins

Yes she arrives at 1652

minutes
(3)

(Total for question 10 is 5 marks)



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GCSE (1 – 9)

Rounding

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- 1 Write 6.47 correct to 1 decimal place.

6.5

(Total for question 1 is 1 mark)

- 2 Write 376 to the nearest hundred.

400

(Total for question 2 is 1 mark)

- 3 Write 5829 to the nearest thousand.

6000

(Total for question 3 is 1 mark)

- 4 Write 7518 to the nearest hundred.

7500

(Total for question 4 is 1 mark)

- 5 Write 1485 to the nearest thousand.

1000

(Total for question 5 is 1 mark)

- 6 Write 2.79 correct to 1 decimal place.

2.8

(Total for question 6 is 1 mark)

- 7 Write 2437 to the nearest hundred.

2400

(Total for question 7 is 1 mark)



8 Write 3.84761 correct to 3 decimal places.

3.848
(Total for question 8 is 1 mark)

9 Write 37.62 correct to one significant figure.

40
(Total for question 9 is 1 mark)

10 Write 58.165 correct to one significant figure.

60
(Total for question 10 is 1 mark)

11 Write 18.1693 correct to 2 decimal places.

18.17
(Total for question 11 is 1 mark)

12 Write 0.4726 correct to two significant figures.

0.47
(Total for question 12 is 1 mark)

13 Write 67480 correct to one significant figure.

70000
(Total for question 13 is 1 mark)

14 Write 9325.822 correct to two significant figures.

9300
(Total for question 14 is 1 mark)



- 15 Write 384761 to the nearest thousand

385000

(Total for question 15 is 1 mark)

- 16 Write 8732 correct to one significant figure.

9000

(Total for question 16 is 1 mark)

- 17 Write 72.173 correct to two significant figures.

72

(Total for question 17 is 1 mark)

- 18 Write 5.4096 correct to 3 decimal places.

5.410

(Total for question 18 is 1 mark)

- 19 Write 4726.7 correct to three significant figures.

4730

(Total for question 19 is 1 mark)

- 20 Write 193.28 correct to one significant figure.

200

(Total for question 20 is 1 mark)

- 21 Write 90437 correct to two significant figures.

90000

(Total for question 21 is 1 mark)



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GCSE (1 – 9)

Powers and Roots

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Scan to check your answers



1 Work out 2^3

8

(Total for Question 1 is 1 mark)

2 Work out the cube root of 64

4

(Total for Question 2 is 1 mark)

3 Write down the value of $\sqrt{49}$

7

(Total for Question 3 is 1 mark)

4 Write down the value of 3^2

9

(Total for Question 4 is 1 mark)

5 Write down a square number that is also an even number.

ANY OF

4, 16, 36, 64, 100, 144...

4

(Total for Question 5 is 1 mark)

6 Write down the value of 5^2

25

(Total for Question 6 is 1 mark)

7 Work out 10^4

10000

(Total for Question 7 is 1 mark)

8 Write down the value of $\sqrt{36}$

6

(Total for Question 8 is 1 mark)



9 Work out 2^4

16

(Total for Question 9 is 1 mark)

10 Work out the cube root of 27

3

(Total for Question 10 is 1 mark)

11 Write down the value of $\sqrt{81}$

9

(Total for Question 11 is 1 mark)

12 Write down the value of 4^2

16

(Total for Question 12 is 1 mark)

13 Write down a square number that is also an odd number.

1, 9, 25, 49, 81, 121...

25

(Total for Question 13 is 1 mark)

14 Work out 5^3

125

(Total for Question 14 is 1 mark)

15 Write down the value of 8^2

64

(Total for Question 15 is 1 mark)

16 Work out the value of 5×10^3

5000

(Total for Question 16 is 1 mark)



- 17 Here is a list of numbers 2^2 4 6 2^3 8 11 12 15 2^4 16 25

From the list, write down all the numbers that are powers of 2.

4, 8 and 16
(Total for Question 17 is 1 mark)

- 18 Write $5 \times 5 \times 5 \times 5$ as a power of 5

5^4
(Total for Question 18 is 1 mark)

- 19 Here is a list of numbers

5 3^2 9 11 4^2 16 20 5^2 25 32 38
From the list, write down all the square numbers.

9, 16 and 25
(Total for Question 19 is 1 mark)

- 20 Here is a list of numbers 6 12 15 21 3^3 27 36 4^3 64 80

From the list, write down all the cube numbers.

27 and 64
(Total for Question 20 is 1 mark)



Name: _____

GCSE (1 – 9)

Place Value and Ordering Numbers

Instructions

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Advice

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- 1 Write down the value of the 8 in the number 583

80 or 8 tens

(Total for question 1 is 1 mark)

- 2 Write down the value of the 5 in the number 583.2

500 or 5 hundreds

(Total for question 2 is 1 mark)

- 3 Write down the value of the 3 in the number 3091

3000 or 3 thousands

(Total for question 3 is 1 mark)

- 4 Write down the value of the 2 in the number 6024

20 or 2 tens

(Total for question 4 is 1 mark)

- 5 Write down the value of the 7 in the number 204.7

0.7 or 7 tenths

(Total for question 5 is 1 mark)

- 6 Write down a 5 digit number that has 3 as its thousands digit.
You can only use the digit 3 once.

any with 3 ---

13500

(Total for question 6 is 1 mark)

- 7 Write down a 6 digit number that has 8 as its hundreds digit.
You can only use the digit 8 once.

--- 8 ---

123800

(Total for question 7 is 1 mark)



- 8 Write down a 4 digit number that has 7 as its tens digit.
You can only use the digit 7 once.

— — 7 —

1070

(Total for question 8 is 1 mark)

- 9 Write the number 2 million in figures.

2 000 000

(Total for question 9 is 1 mark)

- 10 Write the number 5.3 million in figures.

5 300 000

(Total for question 10 is 1 mark)

- 11 Here are 4 number cards.

5	7	2	3
---	---	---	---

- (a) Write down the largest three digit number that can be made using these number cards.

753

- (b) Arrange the cards to give the smallest possible answer to the sum.

(1)

2	5	+	3	7
---	---	---	---	---

(1)

or 35 and 27

(Total for question 11 is 2 marks)

- 12 Write the following numbers in order of size.
Start with the smallest number.

134

153

203

146

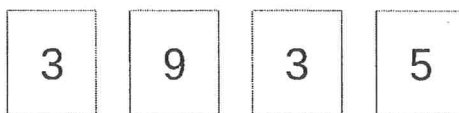
154

134 146 153 154 203

(Total for question 12 is 1 mark)



- 13 Here are 4 number cards.



- (a) Write down the smallest four digit number that can be made using these number cards.

3 3 5 9

- (b) Arrange the cards to give the largest possible answer to the sum.

(1)

9	3	+	5	3
---	---	---	---	---

(1)

(Total for question 13 is 2 marks)

- 14 Write the following numbers in order of size.
Start with the smallest number.

0.35 0.305 0.53 0.053 0.035

0.035 0.053 0.305 0.35 0.53

(Total for question 14 is 1 mark)

- 15 Write the following numbers in order of size.
Start with the smallest number.

1.6 1.06 1.5 1.53 1.563

1.06 1.5 1.53 1.563 1.6

(Total for question 15 is 1 mark)

- 16 Write the following numbers in order of size.
Start with the smallest number.

3.2 3.27 3.72 3.702 3.02

3.02 3.2 3.27 3.702 3.72

(Total for question 16 is 1 mark)



Name: _____

GCSE (1 – 9)

Writing, Simplifying, and Ordering Fractions

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- 1 Write $\frac{12}{60}$ as a fraction in its simplest form.

$$\frac{12}{60} = \frac{2}{10} = \frac{1}{5}$$

$$\frac{1}{5}$$

(Total for Question 1 is 1 mark)

- 2 Write $\frac{18}{40}$ as a fraction in its simplest form.

$$\frac{18}{40} = \frac{9}{20}$$

$$\frac{9}{20}$$

(Total for Question 2 is 1 mark)

- 3 Write $\frac{28}{36}$ as a fraction in its simplest form.

$$\frac{28}{36} = \frac{14}{18} = \frac{7}{9}$$

$$\frac{7}{9}$$

(Total for Question 3 is 1 mark)

- 4 Write $\frac{6}{30}$ as a fraction in its simplest form.

$$\frac{6}{30} = \frac{3}{15} = \frac{1}{5}$$

$$\frac{1}{5}$$

(Total for Question 4 is 1 mark)

- 5 Write $\frac{72}{90}$ as a fraction in its simplest form.

$$\frac{72}{90} = \frac{8}{10} = \frac{4}{5}$$

$$\frac{4}{5}$$

(Total for Question 5 is 1 mark)

- 6 Write $\frac{28}{35}$ as a fraction in its simplest form.

$$\frac{28}{35} = \frac{4}{5}$$

$$\frac{4}{5}$$

(Total for Question 6 is 1 mark)



7 Here is a list of fractions.

$\frac{15}{20}$

$\frac{33}{44}$

$\frac{12}{16}$

$\frac{26}{32}$

$\frac{21}{28}$

One of these fractions is not equivalent to $\frac{3}{4}$

Write down this fraction.

$$\frac{26}{32}$$

(Total for Question 7 is 1 mark)

8 Here is a list of fractions.

$\frac{18}{45}$

$\frac{14}{30}$

$\frac{10}{25}$

$\frac{8}{20}$

$\frac{16}{40}$

One of these fractions is not equivalent to $\frac{2}{5}$

Write down this fraction.

$$\frac{14}{30}$$

(Total for Question 8 is 1 mark)

9 Here is a list of fractions.

$\frac{3}{9}$

$\frac{4}{12}$

$\frac{7}{21}$

$\frac{9}{27}$

$\frac{8}{26}$

One of these fractions is not equivalent to $\frac{1}{3}$

Write down this fraction.

$$\frac{8}{26}$$

(Total for Question 9 is 1 mark)



- 10 There are 26 sweets in a bag.

15 of the sweets are red.
The rest of the sweets are white.

What fraction of the sweets are red?

$$\frac{15}{26}$$

(Total for Question 10 is 1 mark)

- 11 There are 17 counters in a bag.

The table shows the number of counters of each colour.

Colour	Red	Blue	Yellow	Green
Number of Counters	7	2	5	3

What fraction of the counters are blue?

$$\frac{2}{17}$$

(Total for Question 11 is 1 mark)

- 12 There are 9 pens in a box.

5 pens are red.
The rest of the pens are green.

$$9 - 5 = 4$$

What fraction of the pens are green?

$$\frac{4}{9}$$

(Total for Question 12 is 2 marks)

- 13 Last year the cost of Tom's train ticket was £42
This year the cost of Tom's train ticket increased to £50

Write down the increase in the cost of Tom's ticket as a fraction of last year's cost.

$$50 - 42 = 8$$

$$\frac{8}{42} \quad \text{or} \quad \frac{4}{21}$$

$$\frac{8}{42}$$

(Total for Question 13 is 2 marks)



- 14 Write the following fractions in order of size.
Start with the smallest fraction.

$$\frac{1}{6} \quad \frac{4}{15} \quad \frac{1}{5} \quad \frac{1}{3} \quad \frac{7}{30}$$

$$\frac{5}{30} \quad \frac{8}{30} \quad \frac{6}{30} \quad \frac{10}{30} \quad \frac{7}{30}$$

$$\frac{1}{6} \quad \frac{1}{5} \quad \frac{7}{30} \quad \frac{4}{15} \quad \frac{1}{3}$$

(Total for Question 14 is 2 marks)

- 15 Write the following fractions in order of size.
Start with the smallest fraction.

$$\frac{19}{30} \quad \frac{5}{6} \quad \frac{2}{3} \quad \frac{11}{15} \quad \frac{3}{5}$$

$$\frac{25}{30} \quad \frac{20}{30} \quad \frac{22}{30} \quad \frac{18}{30}$$

$$\frac{3}{5} \quad \frac{19}{30} \quad \frac{2}{3} \quad \frac{11}{15} \quad \frac{5}{6}$$

(Total for Question 15 is 2 marks)

- 16 Write the following fractions in order of size.
Start with the smallest fraction.

$$\frac{11}{20} \quad \frac{5}{8} \quad \frac{3}{4} \quad \frac{3}{5} \quad \frac{7}{10}$$

$$\frac{22}{40} \quad \frac{25}{40} \quad \frac{30}{40} \quad \frac{24}{40} \quad \frac{28}{40}$$

$$\frac{11}{20} \quad \frac{3}{5} \quad \frac{5}{8} \quad \frac{7}{10} \quad \frac{3}{4}$$

(Total for Question 16 is 2 marks)

- 17 Write the following fractions in order of size.
Start with the smallest fraction.

$$\frac{1}{3} \quad \frac{2}{9} \quad \frac{1}{4} \quad \frac{3}{16} \quad \frac{3}{10}$$

$$0.\dot{3} \quad 0.2 \quad 0.25 \quad 0.1875 \quad 0.3$$

$$\frac{3}{16} \quad \frac{2}{9} \quad \frac{1}{4} \quad \frac{3}{10} \quad \frac{1}{3}$$

(Total for Question 17 is 2 marks)



- 18 Here are two fractions.

$$\frac{7 \times 7}{6 \times 7}$$

$$\frac{6 \times 6}{7 \times 6}$$

Work out which of the fractions is closer to 1
You must show your working.

$$\frac{49}{42}$$

$$\frac{36}{42}$$

$$1 = \frac{42}{42}$$

$$\frac{49}{42} - \frac{42}{42} = \frac{7}{42}$$

$$\frac{42}{42} - \frac{36}{42} = \frac{6}{42}$$

$\frac{6}{7}$ is closer to 1

(Total for Question 18 is 3 marks)

- 19 Here are two fractions.

$$\frac{3 \times 7}{10 \times 7}$$

$$\frac{5 \times 10}{7 \times 10}$$

Work out which of the fractions is closer to $\frac{1}{2}$
You must show your working.

$$\frac{21}{70}$$

$$\frac{50}{70}$$

$$\frac{1}{2} = \frac{35}{70}$$

$$\frac{35}{70} - \frac{21}{70} = \frac{14}{70}$$

$$\frac{50}{70} - \frac{35}{70} = \frac{15}{70}$$

$\frac{3}{10}$ is closer to $\frac{1}{2}$

(Total for Question 19 is 3 marks)



Name: _____

GCSE (1 – 9)

Pictograms

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- 1 The tally chart show information about the the number of ice creams sold by a shop last week.

	Tally	Frequency
Monday		11
Tuesday		13
Wednesday		9
Thursday		11
Friday		9

- (a) Write down one thing that is wrong with the tally chart.

on Tuesday the frequency should be 12

(1)

The pictogram gives information about the number of chocolate bars sold by a shop last week.

Monday	● ● ●
Tuesday	● ● ● ●
Wednesday	● ● ●
Thursday	● ● ● ●
Friday	● ●

Key:
● Represents 3 chocolate bars

- (b) Write down one thing that is wrong with the tally chart.

On Thursday there are 10.5 chocolate bars - they cannot sell half a chocolate bar

(1)

(Total for question 1 is 2 marks)



- 2 The incomplete table show information about the number of ice creams sold by a shop last week.

	Tally	Frequency
Monday	I	6
Tuesday		9
Wednesday		10
Thursday	II	7
Friday	I	11

(a) Complete the tally chart. (2)

(b) Complete the pictogram to represent the ice cream sales (2)

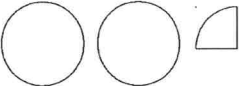
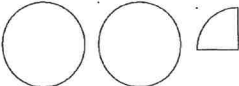
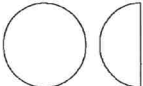
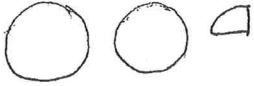
Monday	
Tuesday	
Wednesday	
Thursday	
Friday	

Key:
 Represents 2 ice creams

(Total for question 2 is 4 marks)



- 3 This incomplete pictogram shows information about the number of wheels sold by a shop on Monday, Tuesday and Wednesday.

Monday	
Tuesday	
Wednesday	
Thursday	
Friday	

Key:



A total of 48 wheels were sold on Monday, Tuesday and Wednesday.

18 wheels were sold on Thursday.

22 wheels were sold on Friday.

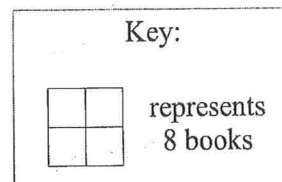
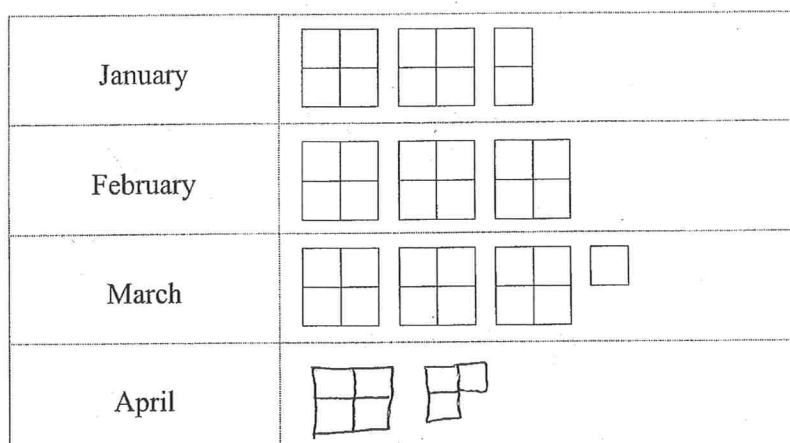
Use this information to complete the pictogram.

6 circles = 48 wheels
1 circle = 8 wheels

(Total for question 3 is 3 marks)



- 4 The pictogram shows information about the number of books sold by an author in January, February and March.



- (a) Write down the number of books sold in March

$$\begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} = 8 \quad \square = 2$$

$$\begin{array}{r} 26 \\ \hline \end{array} \quad (1)$$

14 books were sold in April.

- (b) Show this information on the pictogram. (1)

- (c) What was the total number of books sold in these four months?

$$9 \begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array}$$

$$9 \times 8 = 72$$

$$6 \square$$

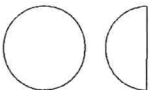
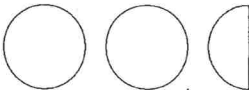
$$6 \times 2 = 12$$

$$\begin{array}{r} 84 \\ \hline \end{array} \quad (2)$$

(Total for question 4 is 4 marks)



- 5 The pictogram shows information about the number of pizzas sold by a shop on Monday and Tuesday.

Monday	
Tuesday	
Wednesday	
Thursday	

Key:	
	represents 8 pizzas

- (a) Write down the number of pizzas sold

- (i) On Monday

$$\bigcirc = 8 \quad \bigcirc = 4$$

$$\begin{array}{r} 12 \\ \hline (1) \end{array}$$

- (ii) On Tuesday

$$\begin{array}{r} 20 \\ \hline (1) \end{array}$$

On Wednesday and Thursday a total of 24 pizzas were sold.

The number of pizzas sold on Thursday was 3 times the number of pizzas sold on Wednesday.

- (b) Use this information to complete the pictogram.

$$\frac{24}{4} = 6$$

T : W

3 : 1

18 : 6

18 Thursday

6 Wednesday

T W			
6	6	6	6

(3)

(Total for question 5 is 5 marks)



Name: _____

GCSE (1 – 9)

The Order of Operations (BIDMAS)

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1 Work out $3 \times 5 - 4$

$$15 - 4$$

11

(Total for Question 1 is 1 mark)

2 Work out $2 + 4 \times 5$

$$2 + 20$$

22

(Total for Question 2 is 1 mark)

3 Work out $(8 - 2) \times 3$

$$6 \times 3$$

18

(Total for Question 3 is 1 mark)

4 Work out $5 + 3^2$

$$5 + 9$$

14

(Total for Question 4 is 1 mark)

5 Work out $7 \times 2 - 3 \times 4$

$$14 - 12$$

2

(Total for Question 5 is 1 mark)

6 Work out $(5 + 2)^2$

$$7^2$$

49

(Total for Question 6 is 1 mark)

7 Work out $6 + 15 \div 3$

$$6 + 5$$

11

(Total for Question 7 is 1 mark)

8 Work out $3 + 10 \times 2^3$

$$3 + 10 \times 8$$
$$3 + 80$$

83

(Total for Question 8 is 1 mark)



9 Work out $20 - 2 \times 7$

$$20 - 14$$

6

(Total for Question 9 is 1 mark)

10 Work out $5 + 4^2$

$$5 + 16$$

21

(Total for Question 10 is 1 mark)

11 Work out $(7 - 4) \times (5 - 1)$

$$3 \times 4$$

12

(Total for Question 11 is 1 mark)

12 Work out $7^2 + 2 \times 4$

$$49 + 8$$

57

(Total for Question 12 is 1 mark)

13 Work out $7 \times (8 - 5)$

$$7 \times 3$$

21

(Total for Question 13 is 1 mark)

14 Work out $5 + 2 \times 9 \div 3$

$$5 + 18 \div 3$$
$$5 + 6$$

11

(Total for Question 14 is 1 mark)

15 Work out $2 \times 6 + 14 \div 2$

$$12 + 7$$

19

(Total for Question 15 is 1 mark)

16 Work out $4 - 3 + 2 \times 5$

$$4 - 3 + 10$$

11

(Total for Question 16 is 1 mark)



17 Work out $3 + 5 \times 7 + 2$

$$3 + 35 + 2$$

40

(Total for Question 17 is 1 mark)

18 Work out $2 + (5 + 3)^2$

$$2 + 8^2$$

$$2 + 64$$

66

(Total for Question 18 is 1 mark)

19 Work out $(4 \times 10) \div (10 \div 2)$

$$40 \div 5$$

8

(Total for Question 19 is 1 mark)

20 Write brackets () in this statement to make each statement correct.
You may use more than one pair of brackets in each statement.

(a) $4 \times (5 + 3) = 32$ (1)

(b) $3 + 4 \times (5 + 6) = 47$ (1)

(c) $(2 + 7) \times (5 + 3) = 72$ (1)

(Total for Question 20 is 3 marks)

21 Write brackets () in this statement to make each statement correct.
You may use more than one pair of brackets in each statement.

(a) $2 + 7 \times (3 + 4) = 51$ (1)

(b) $4 \times (3 + 2) = 20$ (1)

(c) $(9 - 7) \times (3 + 5) = 16$ (1)

(Total for Question 21 is 3 marks)



Name: _____

GCSE (1 – 9)

Negative Numbers

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1 Work out $5 - 9$

-4

(Total for Question 1 is 1 mark)

2 Work out $-7 + 4$

-3

(Total for Question 2 is 1 mark)

3 Work out $-8 - 10$

-18

(Total for Question 3 is 1 mark)

4 Work out $-2 + -11$

-13

(Total for Question 4 is 1 mark)

5 Work out $7 - -9$

16

(Total for Question 5 is 1 mark)

6 Work out $-5 - -12$

7

(Total for Question 6 is 1 mark)

7 Work out $-5 + 8$

3

(Total for Question 7 is 1 mark)

8 Work out $16 - -4$

20

(Total for Question 8 is 1 mark)



9 Here are four numbers.

-5 -4 4 5

Write one of these numbers in each box to make a correct calculation.

$$\begin{array}{l} \boxed{-5} + \boxed{-4} = -9 \\ \text{or } \boxed{-4} + \boxed{-5} \end{array}$$

(Total for Question 9 is 1 mark)

10 Here are four numbers.

-7 -2 2 7

Write one of these numbers in each box to make a correct calculation.

$$\begin{array}{l} \boxed{2} + \boxed{-7} = -5 \\ \text{or } \boxed{-7} + \boxed{2} \end{array}$$

(Total for Question 10 is 1 mark)

11 Here are four numbers.

-8 -2 2 8

Write one of these numbers in each box to make a correct calculation.

$$\begin{array}{l} \boxed{-8} - \boxed{2} = -10 \\ \text{or } \boxed{-2} - \boxed{8} \end{array}$$

(Total for Question 11 is 1 mark)

12 Here are four numbers.

-9 -3 3 9

Write one of these numbers in each box to make a correct calculation.

$$\begin{array}{l} \boxed{9} - \boxed{-3} = 12 \\ \text{or } \boxed{3} - \boxed{-9} \end{array}$$

(Total for Question 12 is 1 mark)



13 Work out 5×-4

-20

(Total for Question 13 is 1 mark)

14 Work out -7×3

-21

(Total for Question 14 is 1 mark)

15 Work out -2×-6

12

(Total for Question 15 is 1 mark)

16 Work out -4×9

-36

(Total for Question 16 is 1 mark)

17 Work out $-32 \div 4$

-8

(Total for Question 17 is 1 mark)

18 Work out $-25 \div 5$

-5

(Total for Question 18 is 1 mark)

19 Work out $-42 \div -7$

6

(Total for Question 19 is 1 mark)

20 Work out $-2 \times 4 \times -9$

-8×-9

72

(Total for Question 20 is 1 mark)



21

$$\boxed{4} \times \boxed{-3} = \boxed{-12}$$

Write a number in the box to make a correct calculation.

(Total for Question 21 is 1 mark)

22

$$\boxed{-10} \times \boxed{2} = \boxed{-20}$$

Write a number in the box to make a correct calculation.

(Total for Question 22 is 1 mark)

23

$$\boxed{-6} \times \boxed{-4} = \boxed{24}$$

Write a number in the box to make a correct calculation.

(Total for Question 23 is 1 mark)

24

$$\boxed{-2} \times \boxed{8} = \boxed{-16}$$

Write a number in the box to make a correct calculation.

(Total for Question 24 is 1 mark)

25

$$\boxed{-18} \div \boxed{-2} = \boxed{9}$$

Write a number in the box to make a correct calculation.

(Total for Question 25 is 1 mark)

26

$$\boxed{27} \div \boxed{-3} = \boxed{-9}$$

Write a number in the box to make a correct calculation.

(Total for Question 26 is 1 mark)



27 Here is a number sequence.

11	6	1	-4	-9
----	---	---	----	----

Fill in the missing boxes to continue the sequence.

(Total for Question 27 is 2 marks)

28 Here is a number sequence.

-20	-12	-4	4	12
-----	-----	----	---	----

Fill in the missing boxes to continue the sequence.

(Total for Question 28 is 2 marks)

29 Here is a number sequence.

-11	-7	-3	1	5
-----	----	----	---	---

Fill in the missing boxes to complete the sequence.

(Total for Question 29 is 2 marks)

30 Here is a number sequence.

25	10	-5	-20	-35
----	----	----	-----	-----

Fill in the missing boxes to complete the sequence.

(Total for Question 30 is 2 marks)



- 31 The temperature in Glasgow one day was -4°C .
The next day the temperature was 3°C lower.

Work out the new temperature.

 -7 $^{\circ}\text{C}$

(Total for Question 31 is 1 mark)

- 32 The temperature in London at midnight was -3°C .
By 11 am, the temperature had risen by 5°C .

Work out the temperature at 11 am.

 2 $^{\circ}\text{C}$

(Total for Question 32 is 1 mark)

- 33 The temperature in Leeming at midnight was -2°C .
The temperature in Leeming at midday was 8°C .

Work out the difference between the temperature in Leeming at midnight and midday.

 10 $^{\circ}\text{C}$

(Total for Question 33 is 1 mark)

- 34 The table shows the temperature in four cities on a day in January.

City	Temperature
London	3°C
New York	-2°C
Tokyo	5°C
Oslo	-4°C

- (a) Write down the name of the city with the lowest temperature.

 Oslo

(1)

- (b) Work out the difference between the temperature in New York and the temperature in Tokyo.

 7 $^{\circ}\text{C}$

(1)

The next day the temperature in New York increased by 3°C .

- (c) Work out the new temperature in New York.

 1 $^{\circ}\text{C}$

(1)

(Total for Question 34 is 3 marks)



- 35 The table shows the temperature at midnight and midday on January 2nd 2020 in four cities.

City	Midnight Temperature	Midday Temperature
Murmansk	-9 °C	-6 °C
Budapest	-3 °C	4 °C
Paris	4 °C	8 °C
Prague	-4 °C	1 °C

- (a) Write down the name of the city with the lowest midnight temperature.

Murmansk
(1)

- (b) Which city had the greatest rise in temperature from midnight to midday?

Budapest
(1)

- (c) At midnight, how many degrees colder was Murmansk than Paris?

13 °C
(1)

(Total for Question 35 is 3 marks)

- 36 The table shows the temperature at midnight on 1 December 2019 in cities.

City	Temperature
Helsinki	-6 °C
Berlin	3 °C
Utrecht	-2 °C
Rome	7 °C

- (a) Write down the name of the city with the lowest temperature.

Helsinki
(1)

- (b) Work out the difference between the temperature in Utrecht and Rome.

9 °C
(1)

(Total for Question 36 is 2 marks)



Name: _____

GCSE (1 – 9)

Coordinates

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.*

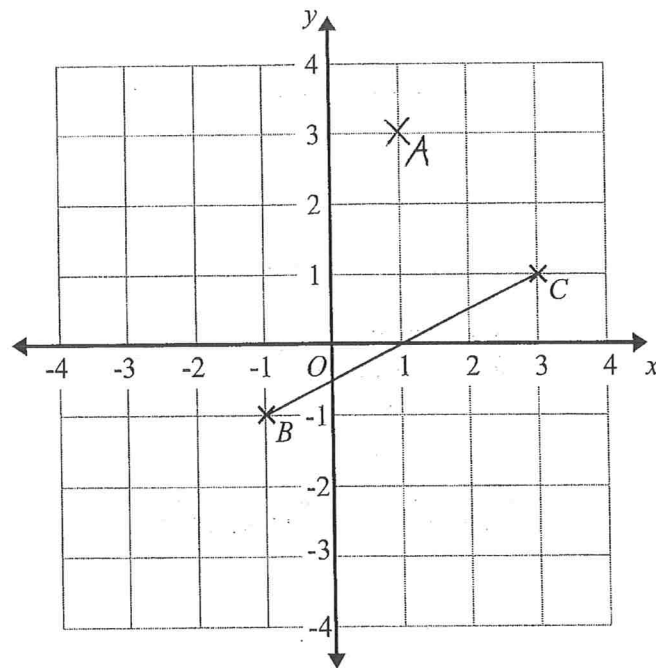
Advice

- 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

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1



- (a) Plot the point with coordinates (1, 3).
Label this point A.

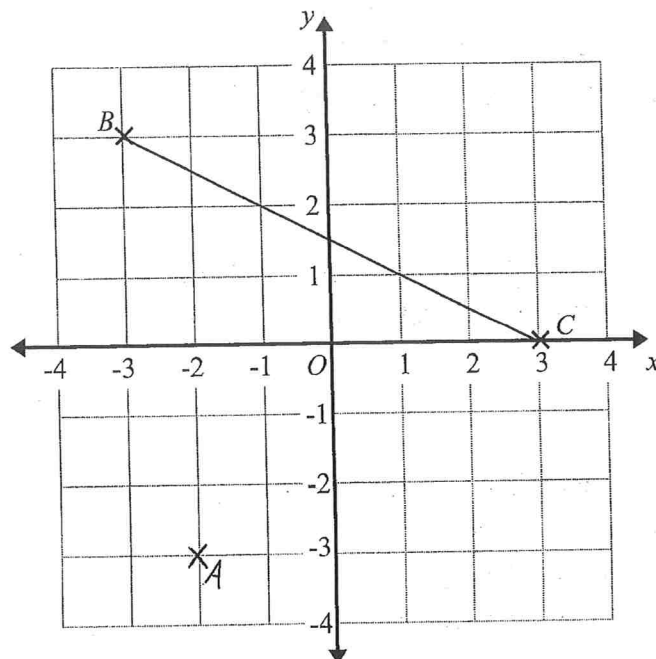
(1)

- (b) Write down the coordinates of the midpoint of BC.

(...../....., ...
(1)

(Total for question 1 is 2 marks)

2



- (a) Plot the point with coordinates (-2, -3).
Label this point A.

(1)

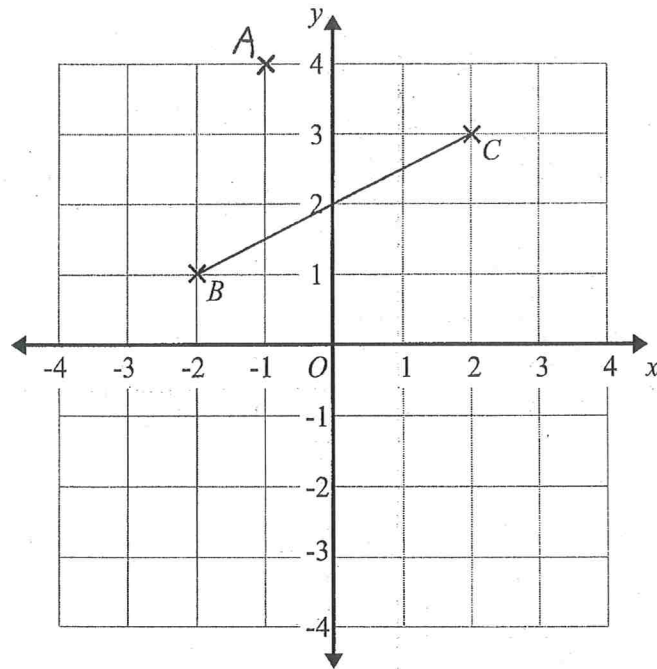
- (b) Write down the coordinates of the midpoint of BC.

(...0..., 1.5...)
(1)

(Total for question 2 is 2 marks)



3



- (a) Plot the point with coordinates $(-1, 4)$.
Label this point A .

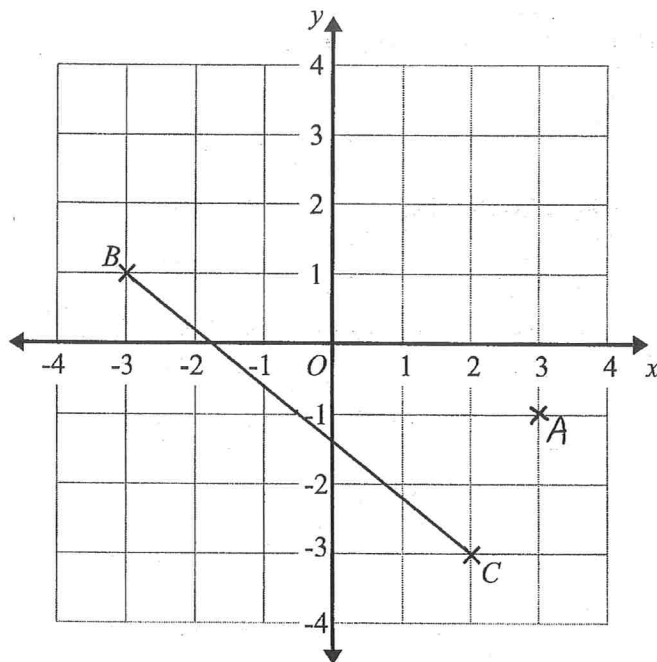
(1)

- (b) Write down the coordinates of the midpoint of BC .

(.....0....., ...2.....)
(1)

(Total for question 3 is 2 marks)

4



- (a) Plot the point with coordinates $(3, -1)$.
Label this point A .

(1)

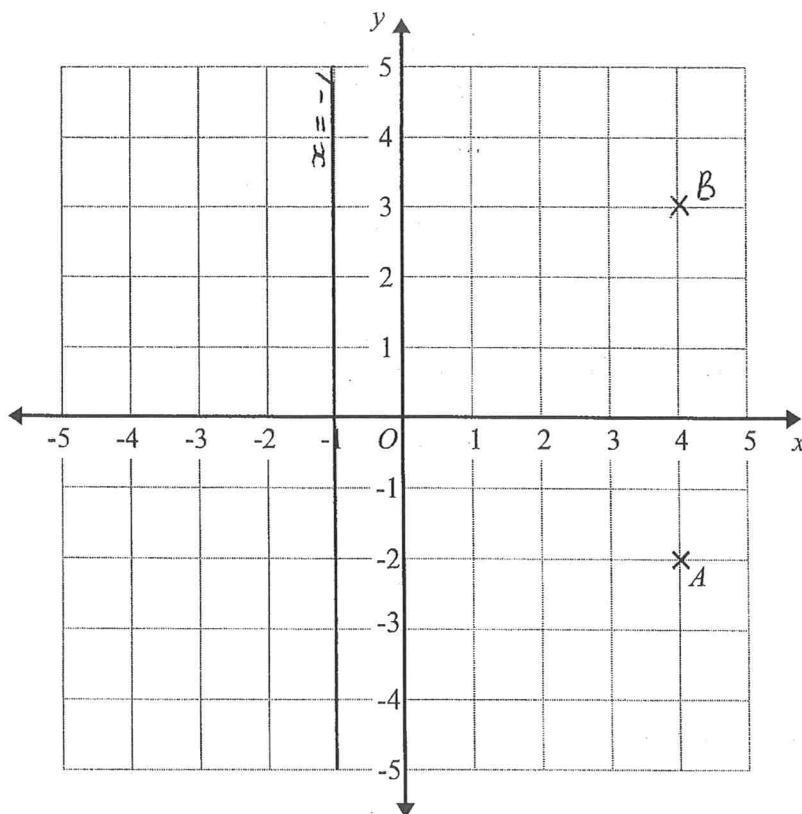
- (b) Write down the coordinates of the midpoint of BC .

(.....-0.5....., ...-1.....)
(1)

(Total for question 4 is 2 marks)



5



(a) Write down the coordinates of point A .

(4, -2)
(1)

(b) On the grid mark with a cross ($\times$) the point $(4, 3)$.
Label this point B .

(1)

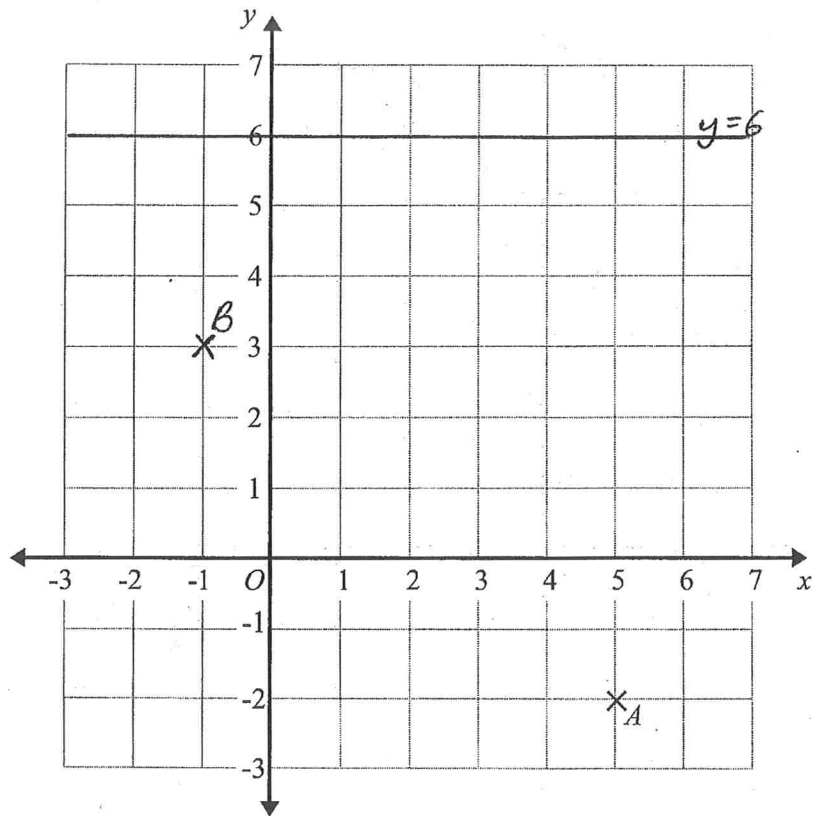
(c) On the grid, draw the line with equation $x = -1$

(1)

(Total for question 5 is 3 marks)



6



- (a) Write down the coordinates of point A .

(5, -2)
(1)

- (b) On the grid mark with a cross (X) the point $(-1, 3)$.
Label this point B .

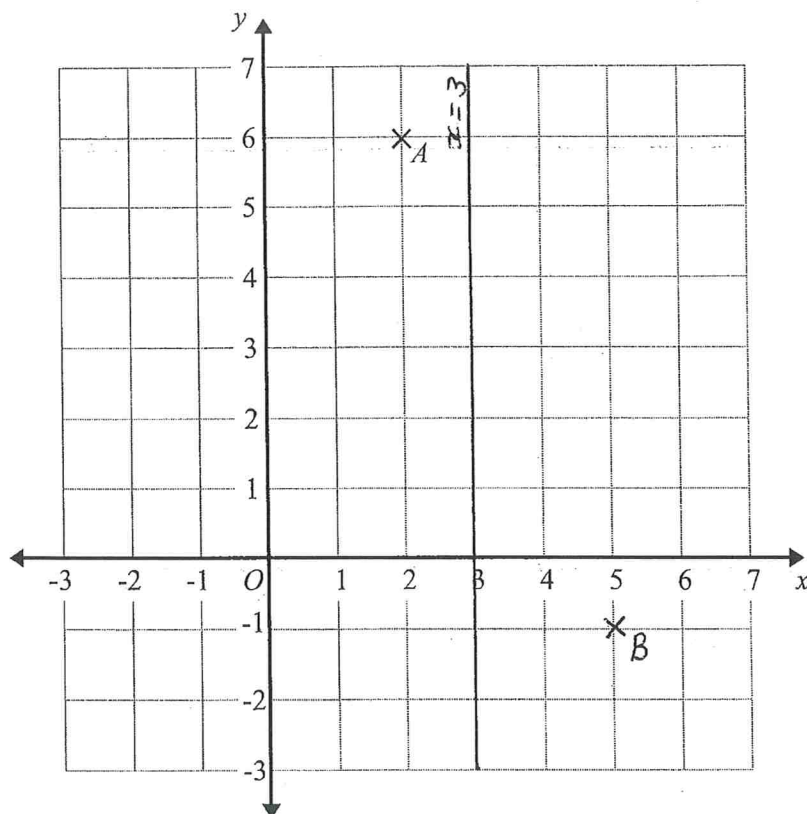
(1)

- (c) On the grid, draw the line with equation $y = 6$

(1)

(Total for question 6 is 3 marks)





- (a) Write down the coordinates of point A .

(2, 6)
(1)

- (b) On the grid mark with a cross ($\times$) the point $(5, -1)$.
Label this point B .

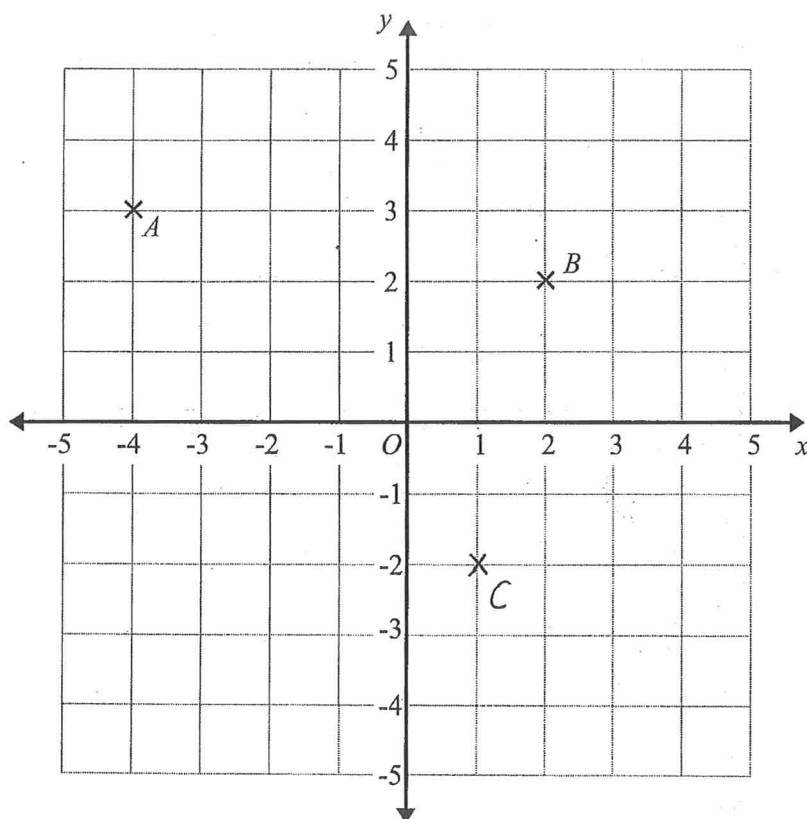
(1)

- (c) On the grid, draw the line with equation $x = 3$

(1)

(Total for question 7 is 3 marks)





- (a) Write down the coordinates of point A.

(-4, 3)
(1)

- (b) Find the coordinates of the midpoint of AB.

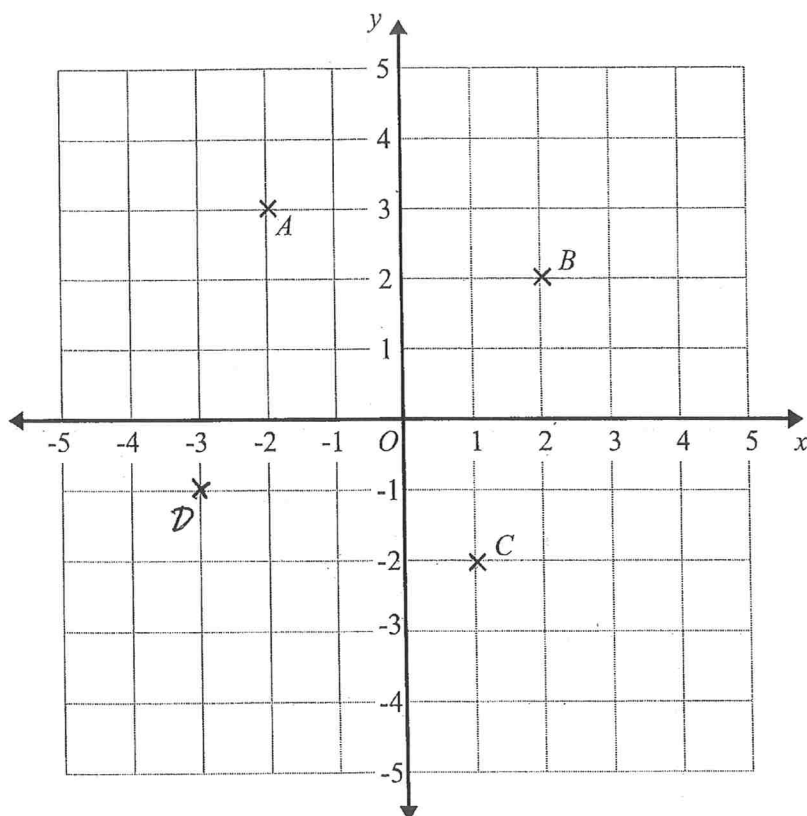
(-1, 2.5)
(1)

- (c) On the grid mark with a cross (X) the point (1, -2).
Label this point C.

(1)

(Total for question 8 is 3 marks)





- (a) Write down the coordinates of point C.

(.....1....., ...-2.....)
(1)

- (b) Find the coordinates of the midpoint of AB .

(.....0....., ...2.5.....)
(1)

$ABCD$ is a square.

- (c) On the grid mark with a cross (X) the point D so that $ABCD$ is a square.

(1)

(Total for question 9 is 3 marks)

