MATHEMATICS ENTRANCE EXAMINATION
ENTRY TO YEAR 8, SAMPLE PAPER

Time Allowed: 60 minutes

Write down all your working and put your answers in the spaces provided.

Calculators are not allowed.

Try to answer all the questions.

Some of the questions may seem unfamiliar. Do not spend too much time on these at first, but move on to questions you like more. You can always return to the unusual ones later.

Your full name:_____

Your current school:_____

1. Work out the following:

a) 635+239+75

b) 4042 - 1578

(1)

(1)

c) 736×7

d) $2688 \div 8$

(1)

(1)

e) $4122 \div 5$

f) 225×34

[Give the remainder as a fraction]

(2)

(2)

(Total 8 Marks)

2.

Work out the answers to the following calculations. You can draw a number line to help you.

a) $-3 - 8 =$

b) $(-4) - (-8) =$

c) $-7 \times 8 =$

d) $-72 \div 8 =$

e) $-27 \div -3 =$

(Total 5 marks)

3.

Peter has a £10 note to spend on stickers.
A packet of stickers costs 79p.

He buys as many packets of stickers as possible.

Work out how much change Peter should get from his £10 note.

£.......................

(Total 3 marks)

4.

(a) Simplify $6p - 2w + p + 5w$

....

(2)

(b) Simplify $5c - 8d - 4c + 3d$

....

(2)

(c) Simplify $t + 8 - 7m + 4 - 3m$

....

(2)

(d) Simplify $4a \times 4b$

....

(2)

(e) Simplify $p \times p \times p \times p \times p \times p$

....

(1)

(f) Simplify $6x^2 + 6x - 3x^2 + xy - 2x$

....

(3)

(Total 12 Marks)

5. Find the value of *x*.

$120°$ x
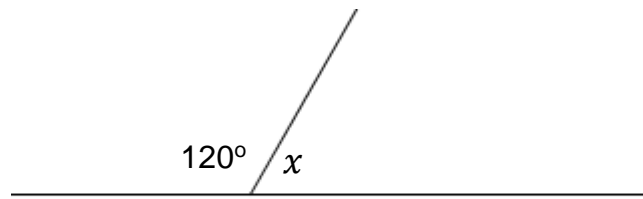
$x =$

(**Total 2 marks**)

6.

A man rows 25038 miles on a rowing machine in 13 years.

He rows the same amount of miles each year.

Work out how many **miles per year** the man rows

(2)

(**Total 2 marks**)

7. a) Write these fractions in order of size.
Start with the smallest fraction.

$$\frac{3}{4} \quad \frac{5}{6} \quad \frac{2}{3} \quad \frac{7}{12}$$

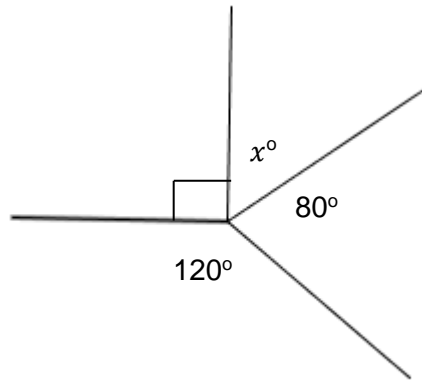........................... (2)

b) Work out $\frac{7}{8} - \frac{1}{4}$

.... (2)

b) Work out the value of $\frac{5}{6} + \frac{3}{4}$

Give your answer as a mixed number.

.... (2)
(Total 6 marks)

8. Find the value of *x*. You must show your working.

x =

(Total 3 marks)

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9. There are 332 children in a school. One coach holds 50 children. How many coaches are needed for a whole school trip?

(Total 2 marks)

10. Solve the following equations. **You must show what you have done to both sides of the equation to gain full marks**.

a) $4x = 20$

$x =$ ....

(2)

b) $x + 5 = 1$

$x =$ ....

(2)

c) $\frac{x}{2} = 5$

$x =$ ....(2)

(Total 6 marks)

11.
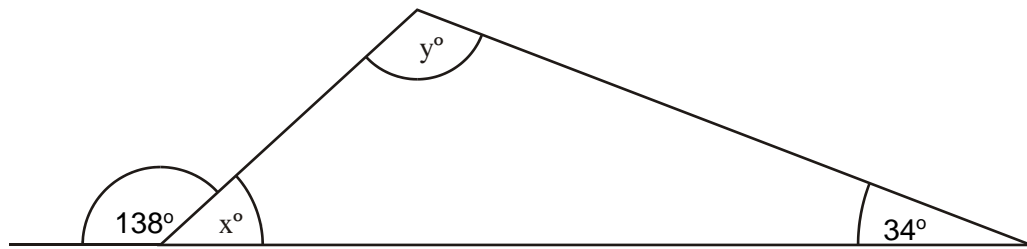
Diagram **NOT** accurately drawn

(a) Work out the value of x.

x = ………….

(1)

(b) Give a reason for your answer.

………………………………………………………………………………

………………………………………………………………………………

(1)

(c) Work out the value of y.

y = ………….

(2)

(d) Give a reason for your answer.

………………………………………………………………………………
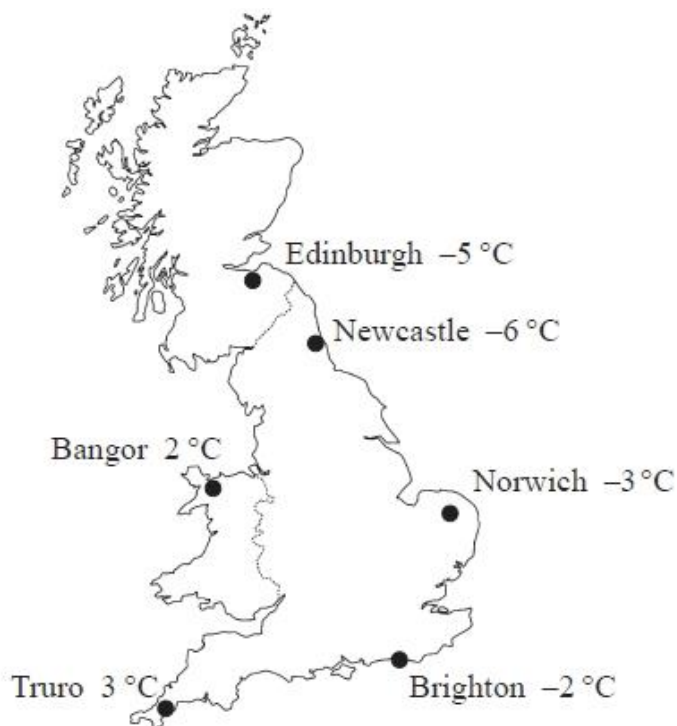
………………………………………………………………………………

(1)

(Total 5 marks)

12. Here is a map of Great Britain.

The map shows the temperatures in some cities at midnight on 20th January.

(a) Which **city** had the lowest temperature at midnight?

....

(1)

In Brighton, the temperature rose by 5°C between midnight on 20th January and midday on 21st January.

(b) What was the temperature in Brighton at midday on 21st January?

.... °C

(1)

At midnight on 20th January, the temperature in Nottingham was halfway between the temperature in Truro and the temperature in Edinburgh.

(c) What was the temperature in Nottingham?

.... °C

(2)

(Total 4 marks)

13. Given that $357 \times 101 = 36057$, work out 358×101 without multiplying.

<div align="right">(Total 2 Marks)</div>

<div align="center">

End of test
Check your answers

Total Test Mark = 60

</div>