BENENDEN

Lower School Scholarship Exam 2015

MATHEMATICS

11+

1 Hour

Name:	……..……
School:	……..……
Date:	……

Instructions to Candidates:

- Calculators may **not** be used
- Attempt all questions
- Show ALL working
- Check your answers for accuracy
- Total marks for this paper = 50

1) a) What is the 3rd Prime Number?

(1)

b) What is the sum of the first five Prime Numbers?

(2)

c) What is the product of the 4th and 7th Prime Numbers?

(2)

2) Calculate:

a) $4\frac{2}{5} - 3\frac{2}{3}$

(2)

b) $2\frac{1}{3} + 4\frac{1}{2}$

(2)

c) $3\frac{2}{7} \times 2\frac{4}{5}$

(2)

3) When listed in order of size, which is the middle value?

$\frac{2}{5}$ $\frac{1}{4}$ 0.45 0.35 $\frac{7}{20}$

(2)

4) Calculate:

a) $2 + (5 - 3)^2$

(2)

b) $4^2 \div (10 - 2)$

(2)

5) Insert brackets to make the following statements correct:

a) 2 + 3 - 8 ÷ 2 = 1

(1)

b) 3 + 1 × 5 - 2 = 12

(2)

6) Angela visited a newsagent and paid for her items with a five pound note. When she received her change there were five coins, each of which was different and the value of each was a multiple of 5 (in pence). How much did she spend?

(3)

7) Given that $317 \times 569 = 180373$, which of the following is not true?

$$3.17 \times 56.9 = 180.373$$

$$31.7 \times 56.9 = 1808.73$$

$$0.317 \times 569 = 1803.73$$

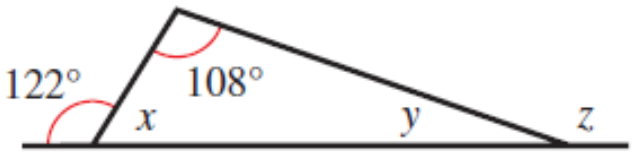
$$0.317 \times 5.69 = 1.80373$$

(2)

8) The volume of a cube is 125cm^3. If I added the lengths of each edge together, what length would I get?

(3)

9)



Find values of *x*, *y* and *z*.

x = ...

y = ...

z = ...

(4)

10)

A number sequence is defined as follows:

- The first term is 5.
- Each new term is 2 more than the previous one.

Use this rule to generate the first five terms of the number sequence.

(3)

11) Solve the following equations:

a) $4a - 6 = 14$

(2)

b) $2(m + 5) = 14$

(3)

12) Poppy wants to buy a travel card and has three options:

- The *Alpha* travel card costs £280 and means that she never has to pay when she gets on a bus or train.
- The *Beta* travel card costs £160 and means that she never has to pay when she gets a bus but does have to pay for trains.
- The *Gamma* travel card costs £150 but means that whenever she gets a bus or train she only pays 50p.

Usual costs for buses are £1.50 per trip and trains cost £2 per trip.

a) If Poppy is expecting to use the bus 50 times and the train 30 times, which card should she buy?

(3)

b) If Poppy is expecting to use the bus 85 times but never the train, which card should she buy?

(3)

c) If Poppy is expecting to use the train 30 times, how many times would she need to use the bus before the *Beta* card becomes better value than the *Gamma* card?

(4)

END OF EXAM