SECONDARY SCHOOL ANNUAL EXAMINATIONS 2009
Directorate for Quality and Standards in Education
Educational Assessment Unit

D

FORM 5	MATHEMATICS SCHEME D	TIME: 30 minutes

Non-Calculator Paper

Name: _____ **Class:** _____

Question	1	2	3	4	5	6	7	8	Total
Mark									

Instructions to Candidates

- **Answer all questions.**

- **This paper carries a total of 20 marks.**

- **Calculators and protractors are not allowed.**

1. I have   **€12 549**   in my bank account.

    Write this number correct

    a) to the **nearest 10**   € _____

    b) to the **nearest 100**   € _____

    c) to the **nearest 1000**   € _____

                                                                                                (3 marks)

2. a)   Write the **first four** multiples of 3:

         _____   _____   _____   _____

    b)   Write the **first four** multiples of 4:

         _____   _____   _____   _____

    c)   Use the answers above and write the **common multiple** of 3 and 4.

                                                                            _____
                                                                                                (3 marks)

3. **Eighteen people** work in a store. **One third** of them are women. How many
    women are there?

                                                                            _____
                                                                                                (2 marks)

4. On Monday the temperature in Moscow was −3°C.
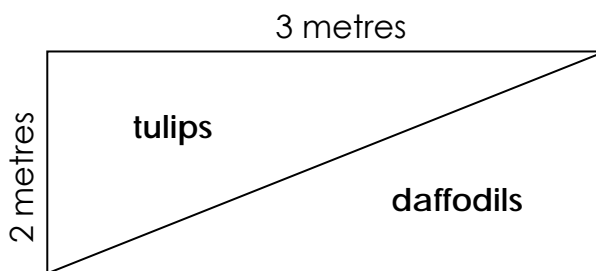
   a) On Tuesday the temperature was 1°C.
      What was the **change** in temperature from **Monday** to **Tuesday**?

      _____

   b) On Wednesday the temperature was −4°C.
      What was the temperature **change** from **Monday** to **Wednesday**?

      _____

                                                                    (2 marks)

5. A rectangular plot in a garden is planted with **tulips** and **daffodils**.

3 metres

2 metres

tulips

daffodils

   a) What is the **area** of the rectangular plot?
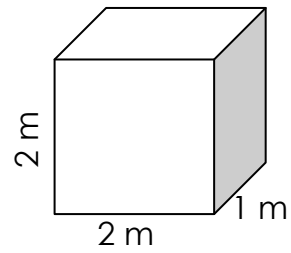
      _____ m²

   b) What is the **area** planted with daffodils?

      _____ m²

                                                                    (2 marks)

6. A water tank measures 2 m × 2 m × 1 m.

   a) What is the volume of water in the tank?

   _____ m³

   b) Given that 1m³ = 1000 litres, how many litres of
      1water are there in the tank?

   _____ litres

7. The **highest** mark in a test was 65. The **lowest** mark was 32. What is the range
   of marks for this test?

   _____

8. a)   **Add**   36.21   and   8.2

   _____

   b)   **Multiply**   (−4) by 8

   _____

   c)   **Divide** €84.60 equally among 9 students.

   _____

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FORM 5   **MATHEMATICS SCHEME D**   **TIME: 1h 30min**
Main Paper

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	Total Main	Non Calculator	**Global Mark**
Mark																

DO NOT WRITE ABOVE THIS LINE
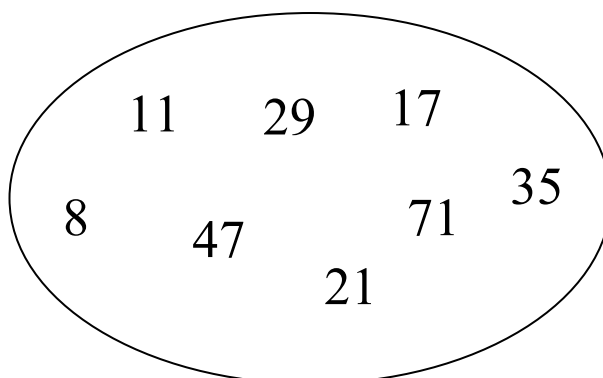
Name: _____   **Class:** _____

- **Answer all questions.**
- **This paper carries 80 marks.**
- **Calculators and mathematical instruments are allowed but all necessary working must be shown.**

CALCULATORS ARE ALLOWED

ANSWER ALL QUESTIONS

1.   Choose from the loop:

a) The **prime** numbers.

_____

b) Put the prime numbers in (a) in order, **smallest first**.

_____

(4 marks)

2.   Maryanne goes to the stationery to buy some folders.
        She buys 6 folders.
        Each folder costs €0.39 .

      a) What is the cost of one folder correct to the nearest 10 cent?

      _____

      b) Estimate the total cost of six folders.

      _____

                                                                    (3 marks)

3.   4 groups of 3 students each take part in a game.
      a) How many students are there in all?

      _____ students

      b) In a second game all these students are divided into **two** groups.
         How many students are there in each group now?

      _____ students

                                                                    (4 marks)

4.   In a club, there are 20 men and 25 women.
      Half the men are married to women from this same group. All the others are
      single.

      a) How many married people are there in the group?

      _____

      b) How many single people are there in the whole group?

      _____
                                                                    (6 marks)

Name :_____   **Class :**_____

5.   a) How many **fourths** $\left(\dfrac{1}{4}\right)$ are there in $3\dfrac{3}{4}$?

     _____

     b) Change $\dfrac{11}{3}$ to a **mixed number**.

     _____
     (5 marks)

6.   a) Find the value of:

     (i) 4^4 =   _____

     (ii) 3^{-2} =   _____

     b) There are **1 900 000 000** computers in a country.
         Write this number in **standard form**.

     _____
     (6 marks)

7.   a) In Joe's garden, 40 flowers out of every 50 are **yellow**.
        What is the **percentage** of **yellow** flowers in Joe's garden?

_____ %

      b) Write this percentage

          (i) as a **fraction in its lowest terms**

_____

          (ii) as a **decimal**.

_____

(7 marks)

8.   a) Find the value of $2x + y$ when $x = $ **4** and $y = $ **−2**.

_____

      b) Expand $6(2a − 3b) + 3a$ and then simplify your result.
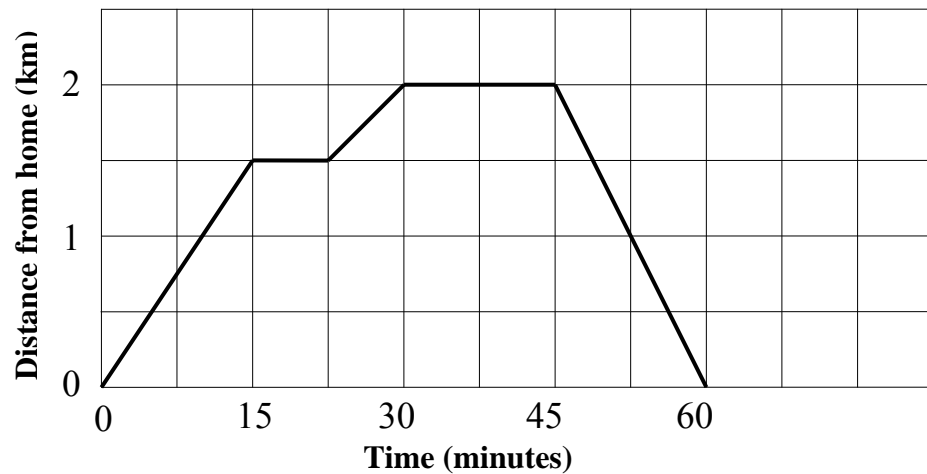
_____

      c) Solve for p:
              $2p − 8 = 4$.

_____

(9 marks)

Name :_____   **Class :**_____

9.   The **travel graph** shows Mr Borg's journey.
       He left home and went to a village nearby.
       On his way he stopped at a petrol station. Then he continued his journey.
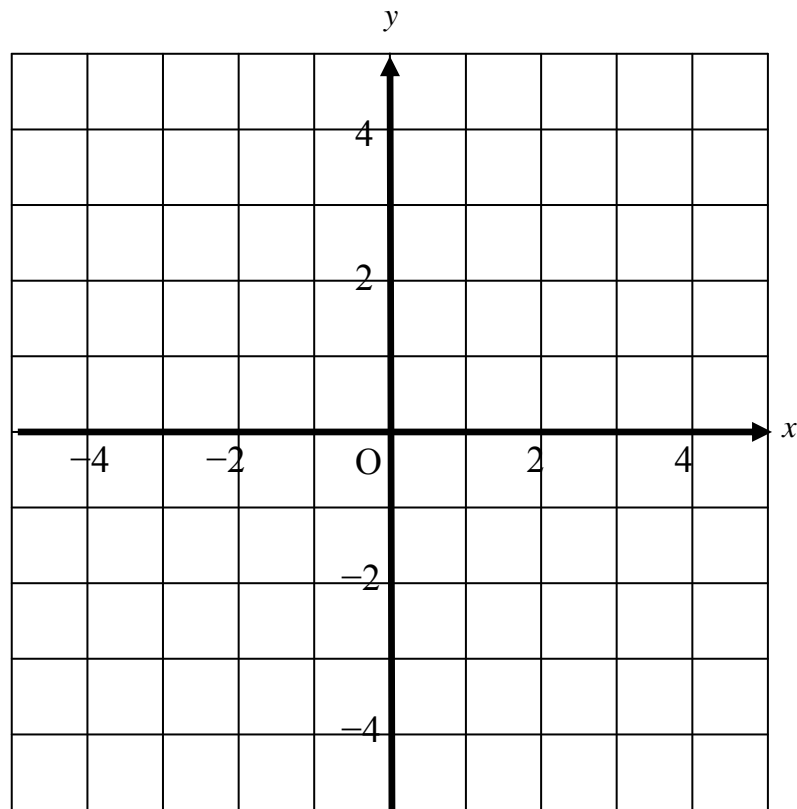   After stopping for some time in the village, he returned home.

Using the travel graph, answer these questions:

a)   How far from Mr Borg's home is the petrol station?

                                                                                    _____

b)   How long did it take Mr Borg to arrive at the village?

                                                                                    _____

c)   How far was the village from home?

                                                                                    _____

d)   How long did Mr Borg stay at the village?

                                                                                    _____

e)   How many minutes did it take him to return home?

                                                                                    _____

f)   What was the total distance travelled by Mr Borg?

                                                                                    _____

g)   How long did the total journey take?

                                                                                    _____

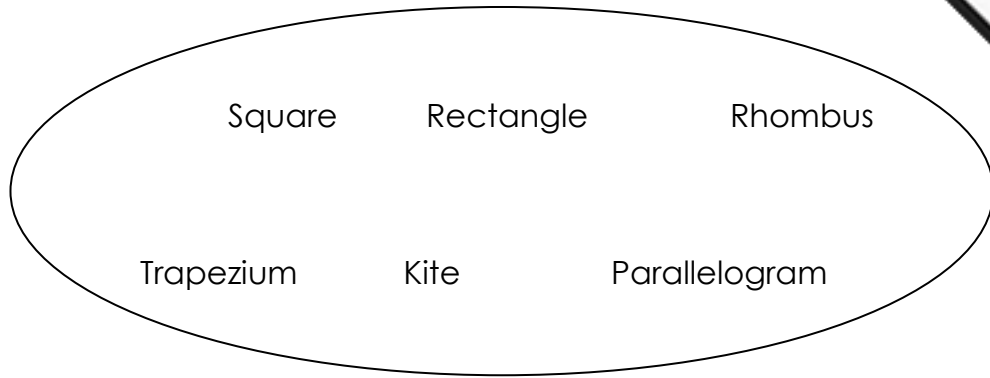   (7 marks)

10.

a) Plot these coordinates on the grid:

A (0 , 2);   B (−2 , −2);   C (2 , −2).

b) Join the points A to B, B to C and C to A.

c) What type of triangle have you drawn?

_____

(4 marks)

11.

Square   Rectangle   Rhombus

Trapezium   Kite   Parallelogram

Choose from the shapes above:

a)   two shapes that have **all sides equal**

_____   _____

b)   two shapes that have **four right angles**

_____   _____

c)   one shape that has only **one line of symmetry**

_____

d)   one shape that has **one pair of parallel sides**

_____

(6 marks)

12.   a)   Draw a circle with radius of 4 cm.
           Label the centre, O.

      b)   Calculate the **area** of the **circle.**
           Use the **formula** $A = \pi r^2$ where r is the radius.
           Give your answer **correct to 2 d.p.**

           _____ cm²

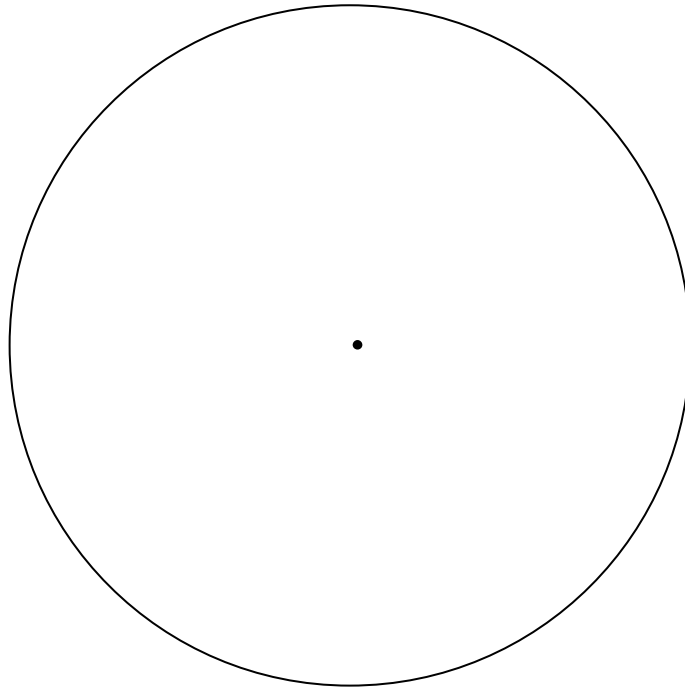   c)   Calculate the **circumference** of the circle.
           Use the formula $C = 2\pi r$ where r is the radius.
           Give your answer **correct to 2 d.p.**

           _____ cm

                                                    (6 marks)

13. a) In a group of 24 students
      9 students play football,
      8 students play volleyball, and
      7 students play handball.

   Construct and label a **pie chart** to illustrate the above information.

   b) A **six-sided dice** is rolled.

      (i) What is the probability of getting a 6?

      _____

      (ii) What is the probability of getting an even number?

      _____

      (iii) If the dice is rolled 60 times, how many times would you expect to get a 6?

      _____

      (13 marks)

END OF PAPER