TOM NEWBY SCHOOL EXAMINATION

Subject	Mathematics	Examiner	Miss L Klemp
Date	8 November 2016	Total marks	100 Marks
Session	1	Duration	2 Hours
Grade	7	Moderator	Mrs M Fourie
Special instructions/ Equipment	1. Please write your name and surname on each lined page and the answer sheet. 2. Skip lines between every sum. 3. Rule off after each question. 4. Draw a 5cm margin on the right hand side of each page. 5. Manage your time carefully 6. **NO** calculators. Equipment Pen; Pencil; Ruler; Eraser; Sharpener		

This Exam has been compiled using notes and information contained in the Tom Newby School book. The marking memorandum has been compiled accordingly. While alternative responses will be given due acknowledgement, the official memorandum will be considered a priority document to ensure uniformity of marking.

QUESTION 1 - A   (27)

Read the questions and write the number and letter only.

1. Nineteen million two hundred and eight thousand and six – in digits.
   a) 19 280 006
   b) 19 208 006
   c) 19 028 060
   d) 19 208 600

2. The 5th prime number is:
   a) 13
   b) 7
   c) 11
   d) 5

3. $3\frac{3}{4}$ written as a decimal fraction is:
   a) 3,4
   b) 7,5
   c) 3,75
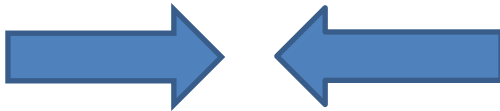   d) 3,25

4. $\frac{9}{20}$ of 360 is:
   a) 18
   b) 40
   c) 162
   d) 150

5. 9 x 4 − 30 ÷ 3 ÷ 2 = _____
   a) 1
   b) 33
   c) 30
   d) 31

6. Label this transformation.

   a) Enlargement
   b) Reflection
   c) Translation
   d) Rotation
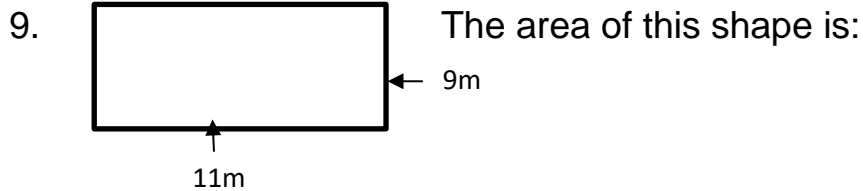
7. Simplify $\frac{80}{420}$ to its simplest form
   a) $\frac{8}{42}$
   b) $\frac{40}{210}$
   c) $\frac{4}{21}$
   d) $\frac{16}{84}$

8. The perimeter of a square is 60cm.
   The length of a side is:
   a) 15cm
   b) 4cm
   c) 3600cm
   d) 20cm

9.

The area of this shape is:

← 9m

11m

a) 20m²

b) 99m²

c) 40m²

d) 400m²

10. 12, 158 written as a common fraction

a) $12\frac{79}{500}$

b) $12\frac{79}{500\,000}$

c) $12\frac{79}{5000}$

d) $12\frac{158}{100}$ (10)

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QUESTION 1 – B

1. Choose the characteristic from Column B that matches Column A.
   Write only the correct number and letter e.g. 1A

Column A	Column B
2.1 Isosceles triangle 2.2 Square 2.3 Parallelogram 2.4 Scalene triangle 2.5 Trapezium	a) All interior angles = 90° b) Three equal sides c) One pair of opposite sides parallel d) Opposite sides are parallel e) All angles = 60° f) Has a side called a hypotenuse g) Two equal sides h) Three unequal sides

(5)

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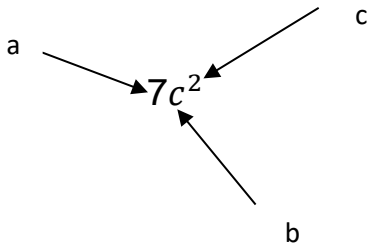## QUESTION 1 – C

Are the following true or false?
1. The additive inverse of -3 is 3.
2. The sum of the interior angles of a triangle is 360°.
3. Opposite sides of a kite are equal.
4. Negative ÷ Negative = Positive.
5. You use a compass to measure the size of an angle   (5)
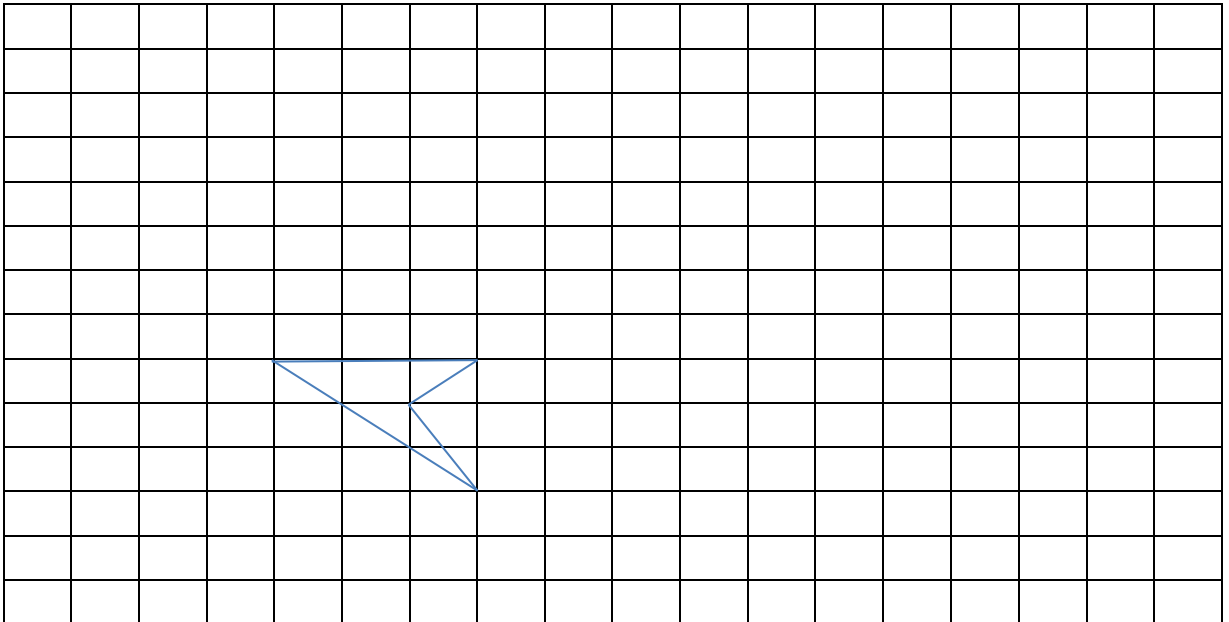
1. Label the following expression.

c

a

$7c^2$

b

(3)

2.

a) Translate the shape 4 units Right and 6 units Up.
   (Label the shape "A")   (2)
b) Enlarge the shape by factor 2.
   (Label the shape "B")   (2)

QUESTION 2 **(30)**

1. Calculate the following:
   a) -13 – 8
   b) -12 + 33
   c) 32 – (-17)
   d) 4 x (-12)
   e) (-13) x (-5)   (6)

2. Simplify the following. Show <u>ALL</u> your working out.
   a) (12 + 7) – (2 – 23)   (3)
   b) 8 x 5 ÷ (4 – 14)   (3)
   c) 27 ÷ (-3) – 12   (2)

3. Solve for x
   a) 3x + 2 = 14   (2)
   b) 20 – 4x = 4   (2)
   c) $\frac{27}{x}$ + 8 = 11   (3)
   d) $13 + x = 22$ (1)

4. If a = 2; b = 5 and c = -3 find the value of:
   a) $\frac{3a+2b}{a+b+1}$ (3)
   b) 4 x c + 3b   (3)
   c) a + b + c   (2)

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QUESTION 3 **(16)**

1. 12; 13; 6; 11; 9; 12; 13; 10; 13

   Use the above information to determine the following:

   a) Range   (1)
   b) Median   (2)
   c) Mode   (1)
   d) Mean   (2)

2. Display the following data in a bar-graph

Favourite pet	Frequency
Dog	9
Cat	4
Guinea Pig	18
Snake	0
Goldfish	5

(4)

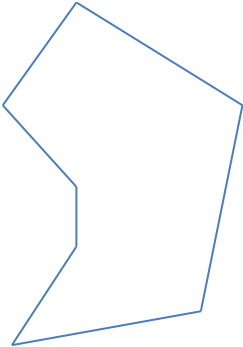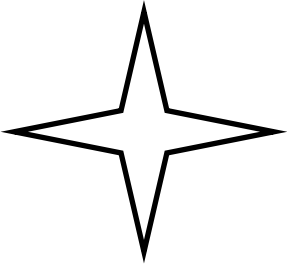Now answer the following questions based on the bar-graph above.

a) How many people were surveyed in total? (2)

b) What fraction of the people owned dogs.
(Simplified fully) (2)

c) Why do you think Guinea Pigs are so popular? (1)
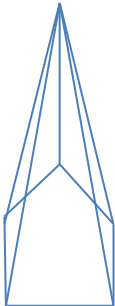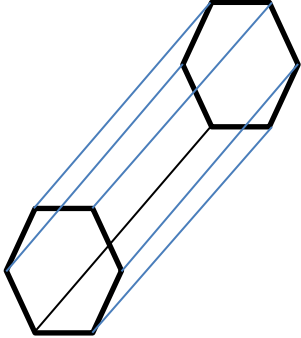
d) Why don't people seem keen on snakes? (1)

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QUESTION 4 (14)

Write the letter and answer only

1.

Shape		
Name	a	b
Regular/Irregular?	c	d
Concave/Convex?	e	f

2.

Shape		
Name	a	b
Number of VERTICES	c	d
Number of EDGES	e	f
Number of FACES	g	h

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QUESTION 5   (13)

1. Find the next term in the following number sequence:
   a) 5; 25; 125; 625; _____   (1)
   b) 1122; 1095; 1068; 1041; _____   (1)

2. Round 3479,985 off to:
   a) Nearest tenth   (1)
   b) Nearest hundred   (1)

3. Complete the following problems
   a) $(4^2 - 2^3) \div (3\frac{1}{8} + \frac{7}{8})^2$ (5)
   b) $60 - 4^3 - \sqrt{(576 + 49)} + (8 - 4^2 \div 8)$ (4)

TOTAL : 100