Noah's Ark Independent Primary School

Subject: Mathematics	Examiner: Rwizi, A
Type: End of Year Exam	Moderator: Böhmer, M
Date: 24 November 2020	Grade: 7
Marks: 100 Marks	Time: 2 hours 15 minutes

Name:

Instructions:

Answer ALL the questions in the space provided.

Read carefully ALL the questions before answering.

Show all your calculations where applicable.

Write neatly and legibly.

Section A: Numbers, Operations and Relationships

Question 1: Circle the letter of the correct answer. (5)

1.1 $3^2 + 1^5 =$

A. 5 + 5 B. 5 + 1 C. 6 + 1 D. 9 + 1

1.2 The HCF of 6 and 16

A. 6 B. 3 C. 2 D. 4

1.3 10% of 1 kg is . . .

A. 1 000g B. 10g C. 100g D. 100 kg

1.4 -25 + 15 =

A. -40 B. 40 C. 15 D. -10

1.5 (0,57 + 4 + 0,03) ÷ 2 =

A. 2,3 B. 0,5 C. 1,0 D. 4,60

Question 2

2.1 Write the following as a common fraction and then as a percentage. (2)

0,27 = _____ = _____

2.2 Fill in each line with > or < or - (2)

a. $(-2)^3$ ___ 2^3 b. $4 - (-4)$ ___ 8

2.3 Arrange these numbers in descending order. (2)

3 ; 0 ; 12 ; -5 ; 79 ; -30 ; 1 ; -16

___ ; ___ ; ___ ; ___ ; ___ ; ___ ; ___ ; ___

Question3

Calculate the following and show all the calculation steps.

3.1 8 376 x 704 (3)	3.2 539 587 – 68 479 (2)
3.3 3 x a = 72 – (18 + 15) (3)	3.4 $\frac{a}{\sqrt{16}} + 2 = \sqrt[3]{125}$ (3)

3.5 50 grade 7 learners wrote a mathematics test. The ratio of the number of boys to the number of girls was 3:2. How many girls were there? Clearly show your working. (3)

3.6 Blessing ran the fun run race in $\frac{4}{5}$ of an hour, Gaositoe ran it in $\frac{3}{4}$ of an hour and Remofilwe ran it in $\frac{5}{6}$ of an hour.

a. Who won the race? Clearly show all your working. (4)

b. What was the time difference between the winner and the athlete who came third? (1)

____ / 30 Marks (Section A)

Section B: Patterns, Functions and Algebra

Question 4

4.1 Fill in the missing numbers in the following sequence. (2)

16 ; 21 ; 26 ; 31 ; ____ ; ____

4.2 Describe the pattern above in words. (2)

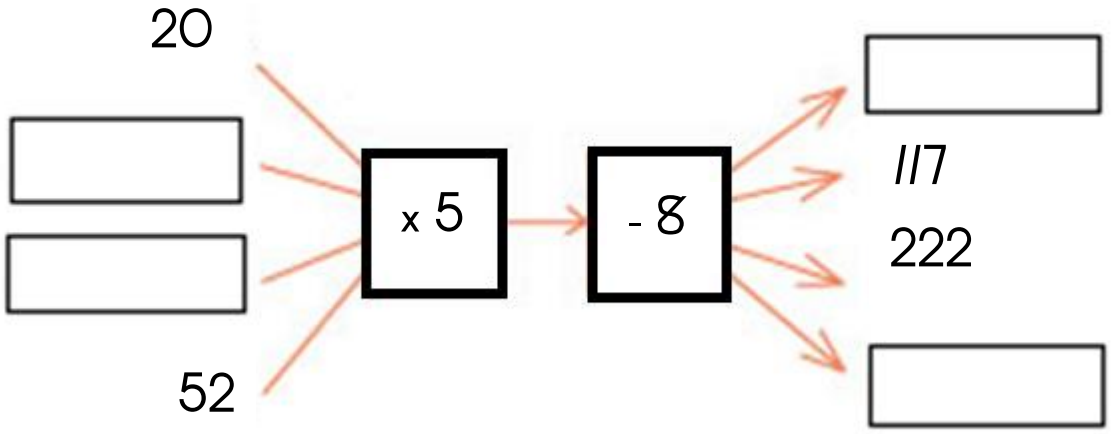
4.3 Draw the next pattern in this sequence. (2)

4.4 Use the square patterns above to complete this table. (4)

No. of squares	1	2	3	4	7	10	
No. of matchsticks	4	7	10				118

4.5 Determine the rule which can be used to calculate any diagram pattern. (3)

4.6 Complete the flow diagram below. (4)



4.7 Write and solve the number sentences that represent these word problems

a. The sum of a number and 15 is 63. Find the number. (2)

b. The sum of a number and four times itself is equal to square of 5. Find the number. (3)

4.8 If $y = 10 - x$, determine the value of y if $x = -4$. (1)

4.9 Solve for n where n is an integer.

$-3n + 1 = 22$ (2)

____ /25 Marks (Section B)

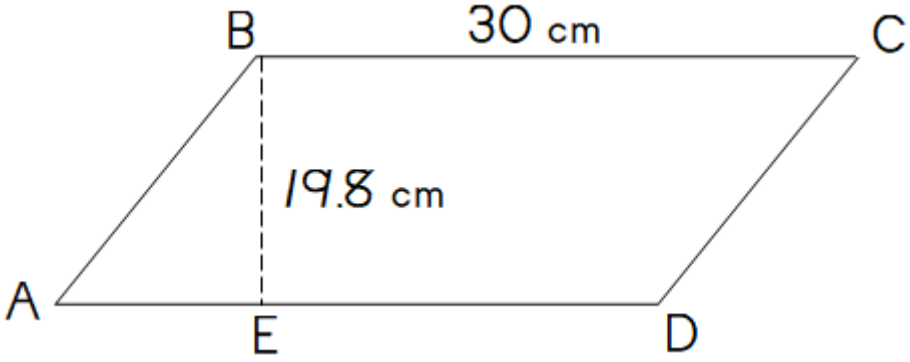
Section C: Measurement

Question 5

5.1 Write down the formula for calculating area of a triangle: (1)

_____

5.2 The figure shows parallelogram ABCD with BC= 30 cm, AE= $\frac{1}{3}$ AD and BE= 19.8 cm. Calculate the area of ΔABE (3)



5.3 Define the term "area" (1)

_____

_____

5.4 The area of a square-shaped garden is 625m^2. What is the measurement of each side? Clearly show all your working. (2)

5.5 Volume is measured in _____. (1)

5.6 A rectangular prism is 10m wide, 40m long and 15m high. Calculate the volume of this prism. (2)

____ / 10 Marks (Section C)

Section D: Space and Shape

Question 6

6.1 Write down any two properties of an isosceles triangle. (2)

_____

_____

6.2 Say whether the following statements are true or false. (2)

a. A diameter is a line from the centre to the edge of the circle.

_____

b. Each interior angle of an equilateral triangle is 70°.

_____

6.3 Name the following solids. (2)

a) 

b) 

_____ _____

6.4 Describe the following types of triangles and angles:

a. Acute triangle: _____

_____ (2)

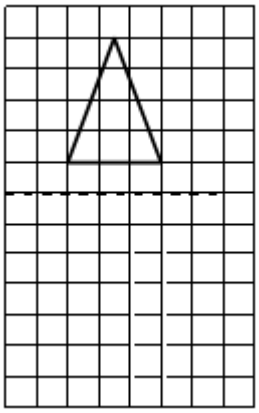
b. Obtuse angle: _____

_____ (2)

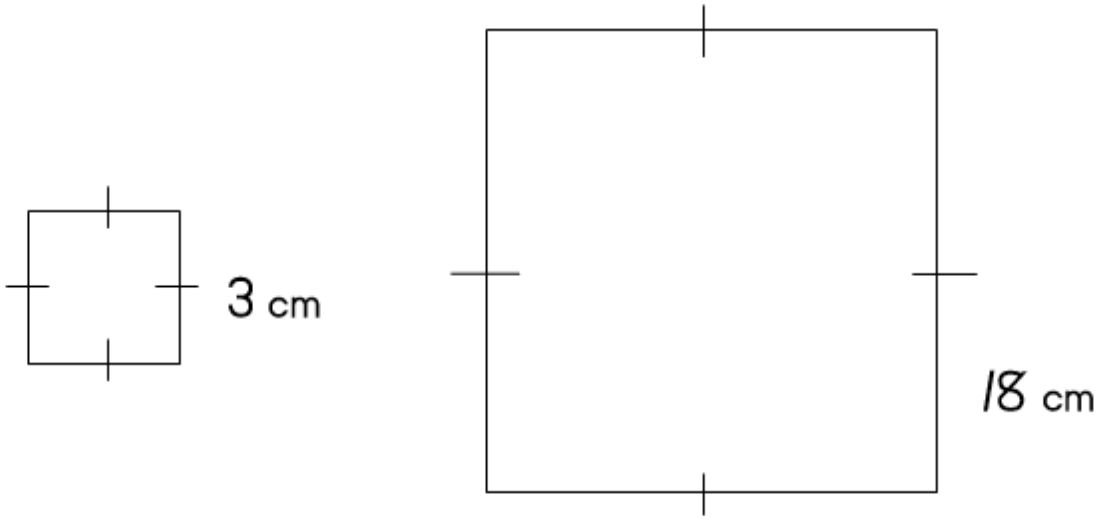
6.5 Draw the following:

a. A net of a square-based pyramid. (2)

b. Draw the reflection about the given line. (3)



6.6 The figure on the right has been enlarged.



Determine the factor of enlargement. Clearly show your working. (2)

6.7 Differentiate between the following:

a. Translation and enlargement (4)

_____

_____

_____

_____

b. Edges and vertices (2)

_____

_____

_____

6.8 Draw all the lines of symmetry for the following shapes: (2)

a. 

b. 

_____ / 25 Marks (Section D)

Section E: Data Handling

Question 7

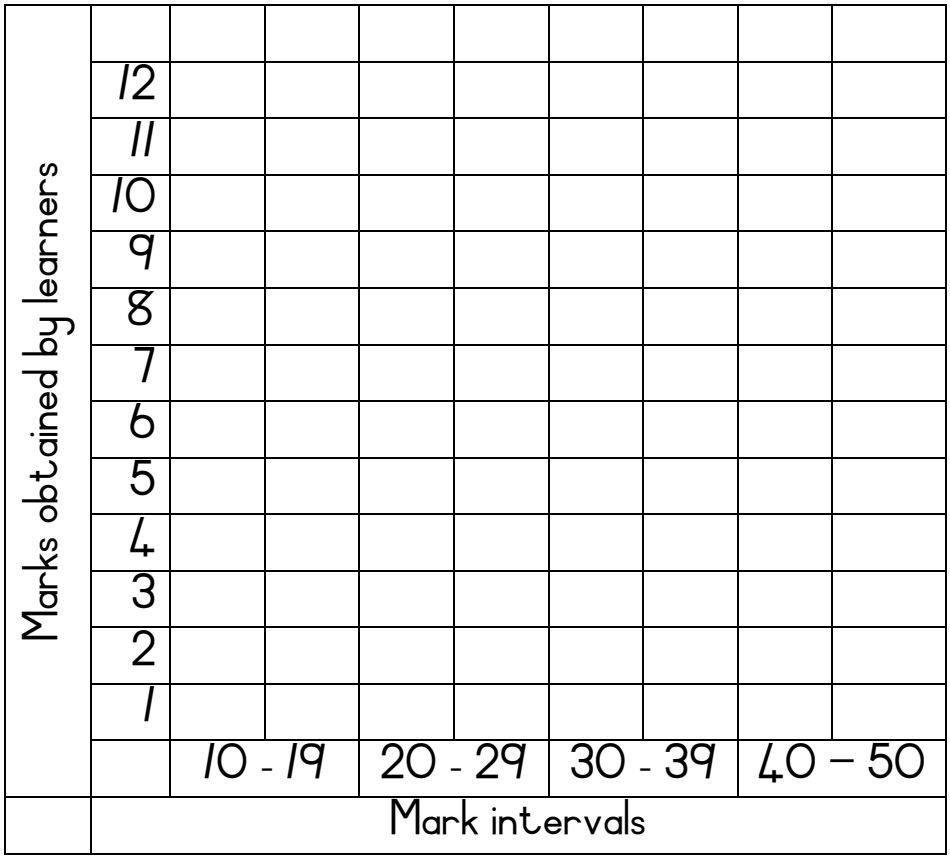
Thirty seven learners wrote a test out of 50 marks and obtained the following marks:

25	33	28	43	29	16	26	35
17	35	14	47	31	21	31	17
15	27	37	38	24	18	43	31
19	40	36	42	37	17	28	30
20	25	31	19	40			

7.1 Use the information above to complete the table: (2)

Marks intervals	Tally	Frequency
10 – 19 marks		
20 – 29 marks		
30 – 39 marks		
40 – 49 marks		

7.2 Use the grid below to draw a histogram to represent the data. (4)



7.3 What is the probability of getting an even number when you roll a dice? (1)

_____

_____

7.4 Differentiate between a range and a mode. (3)

_____

_____

_____

_____

____ / 10 Marks (Section E)

____ / 100 Marks TOTAL MARKS