SMARTWIZ

GRADE 6 MATHEMATICS EXAM

MARKS: 75

MARKS	

TIME: 1 hour 30 Minutes

SCHOOL _____

CLASS (e.g. 4A) _____

SURNAME _____

NAME _____

Instructions for Learners:

>Read all instructions carefully before beginning the exam.

>Write your name and student number clearly on the answer sheet or booklet.

>Answer all questions unless otherwise indicated.

>Show all workings/calculations where applicable.

>Write clearly and legibly.

>Use only blue or black ink. * Do not use correction fluid or tape.

>No electronic devices (such as calculators, cellphones, etc.) are allowed unless specifically permitted.

>Raise your hand if you have a question.

>Do not talk to other learners during the exam.

>Any form of dishonesty will result in disqualification.

This exam consists of 7 pages, including the cover page.

SECTION A: NUMBER, OPERATIONS AND RELATIONSHIPS (20 MARKS)

Write the following in expanded notation:

a) 48 213_____

b) 6 029_____

Round off the following numbers to the nearest 1000:

a) 52 648_____

b) 97 399_____

Solve:

a) 345 × 6 = _____

b) 7 812 ÷ 4 = _____

Write the following fractions in simplest form:

a) 18/24 _____

b) 42/56_____

Calculate:

a) 3/4 + 2/8 = _____

b) 5/6 – 1/3 = _____

Arrange these numbers in ascending order:1/2, 0.75, 3/4, 2/3, 0.5(2)

_____

Write down the prime numbers between 10 and 30. (3)

_____

What is the LCM of 4 and 6? What is the HCF of 12 and 18? (3)

_____

SECTION B: PATTERNS, FUNCTIONS AND ALGEBRA (10 MARKS)

Complete the number pattern:

5 ; 10 ; 20 ; _____ ; ____ ; ____(3)

Write the rule for the following pattern:3 ; 6 ; 9 ; 12 ; 15 ; …(1)

_____

Solve for the missing number:a) 5 × □ = 45b) □ − 12 = 21(2)

_____

Fill in the input-output table and find the rule:

Rule: Output = Input × 6

Input	Output
1	
2	
3	
4	

SECTION C: SPACE AND SHAPE (GEOMETRY) (10 MARKS)

Name the following 2D shapes:

a) A shape with 3 sides: _____ b) A shape with 4 equal sides and angles: _____(2)
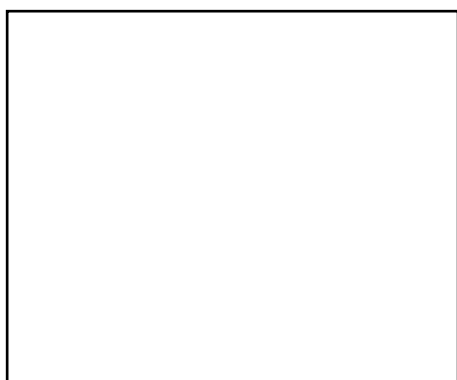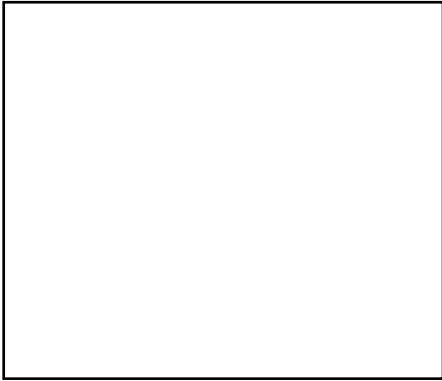
What type of angle is:

a) 90°

b) Less than 90°

c) Greater than 90° but less than 180°

Draw and label:

a) An acute angle

b) A right angle(2)

Name one real-life object shaped like a:

a) Cylinder_____

b) Cone _____

How many faces, edges, and vertices does a cube have? (1)

_____

SECTION D: MEASUREMENT (15 MARKS)

Convert:

a) 2.5 km = _____ m   b) 750 ml = _____ litres(2)

How many minutes in:

a) 3 hours : _____   b) 2.5 hours : _____

A bottle holds 1.25 litres. How many ml is that? (1)

_____

Calculate the perimeter of a rectangle with length = 12 cm and width = 8 cm. (2)

_____

Calculate the area of the same rectangle. (2)

_____

A cake recipe needs 750 g of flour. How many kilograms is that? (1)

_____

A class starts at 08:15 and ends at 09:45. How long is the class? (2)

_____

A car travels 180 km in 3 hours. What is its average speed in km/h? (2)

_____

SECTION E: DATA HANDLING (10 MARKS)

Study the pictograph below showing the number of books read by Grade 6 learners in a week.

■ = 2 books

LEARNER	BOOKS READ
LINDI	■ ■ ■ ■ ■
THEMBA	■ ■ ■ ■

AYESHA	■ ■ ■ ■ ■ ■
JOHAN	■ ■ ■

How many books did Ayesha read? (1)

_____

Who read the most books? (1)

_____

How many books did Themba and Johan read together? (2)

_____

How many more books did Lindi read than Johan? (2)

_____

What is the total number of books read by all learners? (2)

_____

Suggest one way to improve the display of this data. (2)

_____

TOTAL: 75 MARKS

SECTION A: NUMBER, OPERATIONS AND RELATIONSHIPS (20 MARKS)

a) 40 000 + 8 000 + 200 + 10 + 3   b) 6 000 + 20 + 9

a) 53 000   b) 97 000

a) 2 070   b) 1 953

a) ¾   b) 3/4

a) 3/4 + 2/8 = 3/4 + 1/4 = 1   b) 5/6 - 1/3 = 5/6 - 2/6 = 3/6 = 1/2

0.5, 1/2, 2/3, 0.75, 3/4(2)

11, 13, 17, 19, 23, 29(3)

LCM of 4 and 6 = 12; HCF of 12 and 18 = 6(3)

SECTION B: PATTERNS, FUNCTIONS AND ALGEBRA (10 MARKS)

40 ; 80 ; 160(3)

Rule: Add 3 or multiply by 3(1)

a) 9b) 33(2)

Output row: 6 ; 12 ; 18 ; 24Rule: Multiply by 6(4)

SECTION C: SPACE AND SHAPE (10 MARKS)

a) Triangle   b) Square(2)

a) Right angle   b) Acute angle

a) Can (or water bottle)   b) Ice cream cone(2)

Cube: 6 faces, 12 edges, 8 vertices(1)

SECTION D: MEASUREMENT (15 MARKS)

a) 2 500 m   b) 0.75 litres(2)

a) 180 min   b) 150 min(2)

1 250 ml(1)

P = 2(12 + 8) = 2(20) = 40 cm(2)

A = 12 × 8 = 96 cm²(2)

0.75 kg(1)

1 hour 30 minutes(2)

180 km ÷ 3 h = 60 km/h(2)

SECTION E: DATA HANDLING (10 MARKS)

12 books(1)

Ayesha(1)Themba (8) + Johan (6) = 14 books(2)

Lindi (10) – Johan (6) = 4 books(2)

10 + 8 + 12 + 6 = 36 books(2)

Use bar graph, add key/scale, or numbers next to pictures (2)

TOTAL: 75 MARKS