WCED EXTERNAL EXAMINATION

Name: _____

Mathematics Paper 1

19 November 2019

Examiner: P. Swanepoel, et al



Grade: 7 ____

Time: 2 hours

Total: _____/75

Moderator: R. Alves

[8]

Instructions:

- 1. Strictly no calculators may be used.
- 2. Read through your questions carefully.
- 3. Write clearly and neatly with a sharp pencil.
- 4. Once done, go through your paper to check all your answers again.

Question 1: Multiple choice

Circle the letter of the correct answer for each of the following questions:

- 1.1) The **product** of the first three **prime numbers** is:
 - a) 6

b) 25

- c) 30
- d) 5
- 1.2) The current temperature is -10°C. If increased by 12°C, it would be:
 - a) 22°C

- b) -2°C
- c) -12°C
- d) 2°C

- 1.3) $(7^2 \sqrt{81}) \div \sqrt[3]{125}$
 - a) 5

b) 8

- c) 10
- d) 4

- 1.4) The highest common factor of 40 and 60 is:
 - a) 10

b) 5

- c) 20
- d) 12

- 1.5) The simplified form of the ratio 28:14:49 is:
 - a) 2:7:6

- b) 4:2:7
- c) 4:2:7
- d) 7:2:7
- 1.6) A vehicle travels at a constant speed of 110 km/h. How long will it take it to travel 660km?
 - a) 4 hours

- b) 7 hours
- c) 8 hours
- d) 6 hours

- 1.7) Use BODMAS to solve: $35 5 \times 12 \div 4$
 - a) 20

b) 90

c) 9

d) 15

- 1.8) Solve 6x 4 if x = 3
 - a) -14

b) -24

c) 14

d) 59

Question 2: Whole Numbers

(1)

(2)

2.1) Calculate the following:

 $= 2892 \times 895$

$$x = 259098 + 9578456$$

$$x = 259\ 098 + 9\ 578\ 456$$

_____ (1)

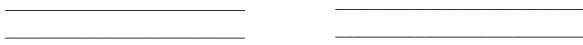
b)
$$x = 109324 - 82369 =$$



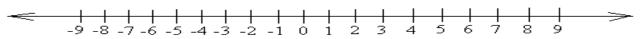
2.2) **Exponents -** Simplify the following:

$$\sqrt{121} \times 3 + 5^2 =$$

b)
$$\sqrt[3]{216} + (9-2)^2 =$$



2.3) Integers - Calculate:



a)
$$-3+6 =$$
 (1)

b)
$$9 - (-8) =$$
 (1)

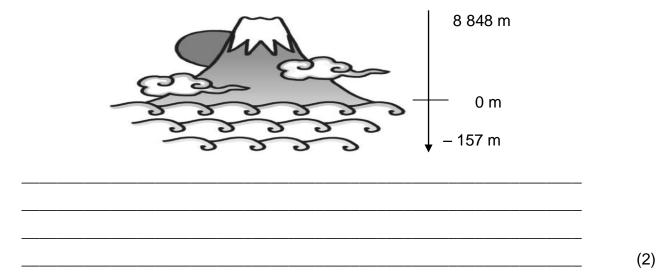
c)
$$5 \times (-3) =$$
 ______(1)

2.4) If Jack, Mpho and Shakir each take three tablets per day when they are sick. How many pills will they take altogether if they are sick for four days?

2.5)	26 People want to build a greenhouse for their community that costs R91 234. They all
	share the costs equally. How much would each pay?

(3)

2.6) Mount Everest is 8 848 m high and the lowest point in Africa is Lake Assal, in Dijibouti, which is 157 m below sea level. What is the total distance between the top of Mount Everest and the lowest point at Lake Assal?



Question 3: Fractions; Decimals and Percentages[24]3.1 Change $7\frac{5}{8}$ to an improper fraction.(1)3.2 Convert 0,68 to a common fraction in its simplest form.(1)3.3 Which one of the fractions $2\frac{5}{6}$; $3\frac{2}{3}$; $2\frac{3}{4}$ or $3\frac{7}{12}$ is closest to 3?(1)3.4 Simplify $5\frac{42}{16}$ (1)3.5 What is $\frac{5}{8}$ of 64kg?(1)

3.6	Calculate:
3.6	Calculate:

<u>م</u> ا	_ به	256 () . 27	202	5 000
a)) <i>x</i> =	: 350,8	1 + 21	,283 -	- 5,999

b)
$$x = 94,61 \times 32,4$$

c)
$$x = 578.7 \div 9$$

d)
$$x = 1\frac{7}{8} + 4\frac{3}{4}$$

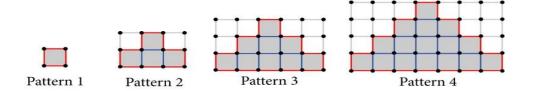
e)
$$x = 3\frac{3}{5} - 1\frac{4}{6} 30\frac{48}{20}$$

$$x = 3\frac{3}{5} - 1\frac{4}{6} \quad 30\frac{48}{30}$$

g)
$$x = 45\%$$
 of R240

	2) 1; 2; 4; 8;;		(2)
	Extend the following number sequences to the next two terms ar 1) 8; 14; 20; 26;;	іч чезспре ше ра	u c III.
	(4.1.2) $y = 3x + 2$ (4.1.7) Extend the following number sequences to the payt two terms are		ttorn
	x (input)	y (output)	
4.1)	Complete the flow-diagram by filling in the missing values :		(2)
	Question 4: Number Patterns/ Functions and Relation	nships	[10]
			(2)
b)	With what percentage did the price of the soccer ball decrease?		
			(2)
a)	What percentage of the original price did he pay?		
3.8)	Peter paid R120 for a soccer ball that originally cost R150.		
			(2)
3.7)	H&M is having a winter sale. All items are sold at a 25% discount pay for a pair of jeans that originally cost R460?	. Calculate what y	ou will
			(2)

4.3) Study the following pattern and answer the questions that follow:



- 4.3.2) Determine the general rule for this pattern. ______ (1)
- 4.3.3) How many squares will the 10th pattern have? Show how you got to your answer.
- 4.3.4) Which pattern will have 144 squares? ______ (2)

_____(2)

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Question 5: Algebra

5.1) Write these algebraic expressions in their shortest form:

a)
$$2 \times b - 4 =$$

b)
$$(3+m) \div n =$$

c)
$$a \times 3 \times 4 \times b =$$
 (3 × 1 = 3)

5.2) Write the following as algebraic expressions:

- a) The sum of p and double q.
- b) Subtract *y* from 2 and multiply by 6.
- c) Divide 9 by q and add 14. $(3 \times 1 = 3)$

5.3) Solve these algebraic expressions by substitution. Let x = 4 and y = 3.

a)
$$xy =$$
 = _____

b)
$$\frac{x}{3y} =$$
_____ = ____

c)
$$5y - x =$$
 = _____ (3 × 1 = 3)

5.4) Solve the following equations by inspection:

a)
$$p + 8 = 17$$
 $p = _____$

c)
$$\frac{p}{12} = 3$$
 $p =$ _____

d)
$$5p + 13 = 38$$
 $p =$ $(4 \times 1 = 4)$

TOTAL: 75 Marks