

MINISTRY OF EDUCATION
NATIONAL GRADE SIX ASSESSMENT
PRACTICE TEST # 3
MATHEMATICS

Paper 02

March 12, 2020

Reading Time: 10 minutes
Writing Time: 60 minutes

Read these instructions carefully before you attempt to answer the questions.

1. Write your candidate number clearly on each page.
2. This paper contains **six** questions. You are required to answer **Question 1** and **three others**.

Each question is worth **5** marks.

Note: You must answer **only four** questions.

Be sure to answer the **four** questions completely.

3. Write the answer for each question in the space provided in this booklet.
4. Answers **must** be written in complete sentences where possible.
5. Each step of your work **must** be **clearly** shown in this booklet.
6. If you have to erase, do so cleanly.
7. Look over your work when you have finished.
8. **Do not** take away any part of this booklet.

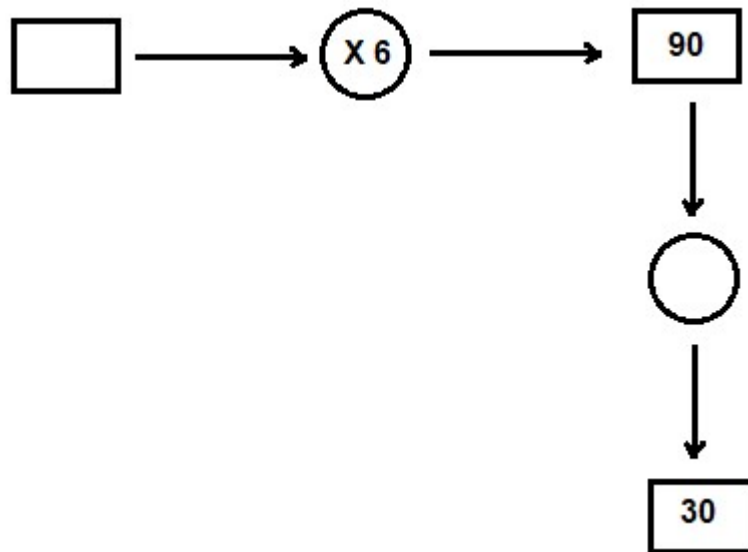
DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO DO SO.

MINISTRY OF EDUCATION
GRADE 6 – PRACTICE TEST 3
MATHEMATICS Paper 2 March, 2020

Question 1

1. (a) In a school, $\frac{3}{7}$ of the number of pupils are boys. There are 324 girls.
- (i) What fraction of the total number of pupils are girls? **(1 mark)**
- (ii) Calculate the total number of pupils in the class. **(2 marks)**

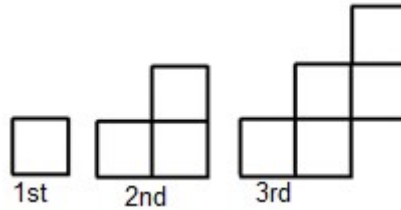
- (b) Study the flow chart below, then complete the rectangle and circle.



(2 marks)

Question 2

Zena used squares to make patterns. The first three patterns are shown below. Study them carefully then answer the questions that follow.



(a) Draw the 4th pattern (2 marks)

(b) Complete the table below to show the number of squares that is used to make each figure.

Figure	Number of Squares
1	1
2	3
3	5
4	
5	

(1 mark)

(c) Study the completed table then complete the rule below to determine the number of squares in the 20th shape.

$$\boxed{} \times \boxed{20} - \boxed{}$$

(2 marks)

Question 3

Study the information about the iPhone below then answer the questions that follow.

AMAZON SALE



Sale Price
\$180 000
plus Shipping of
12% of sale price

GUYANA GIZMOS AND GADGETS



Cash Price
\$210 000
with holiday discount
of 3% of sale price.

Amala purchased her iPhone from Amazon while Keston purchased his from Gizmos and Gadgets.

- (a) How much did she pay for it? **(2 marks)**
- (b) Who paid more for their phone and by how much? **(3 marks)**

Question 4

In a pack of 12 pencils, eight are red and the others are green.

(a) What is the ratio of green to red pencils? (1 mark)

(b) Caylandra bought 4 boxes of pencils. Calculate the number of green pencils she received. (2 marks)

(c) If one green pencil was replaced with one red one, how many boxes of pencils should Mark buy if he wants to have 24 green pencils? (2 marks)

Question 5

(a) (i) Evaluate $2\frac{1}{3} - 1\frac{2}{5}$ (2 marks)

(ii) Write your answer to part (a) as a decimal to 1 decimal place. (1 mark)

(b) Evaluate :
 $\sqrt{39} + 2^2$ (2 marks)

Question 6

A piece of wire 88 cm was bent to form a square as shown below.



(a) Calculate the length of one side of the square. (1 mark)

(b) The same piece of wire was curved to make a circle. ($\pi = \frac{22}{7}$)

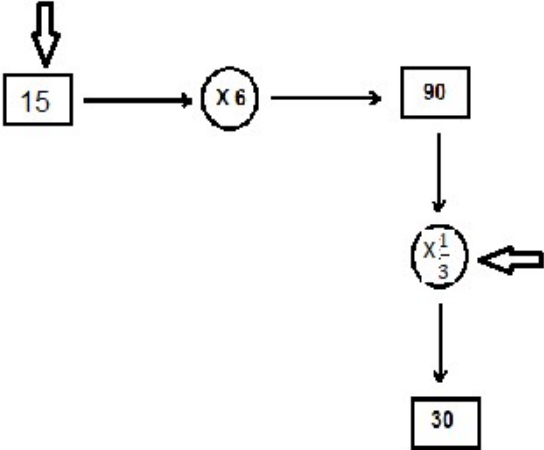
(i) Calculate the radius of the circle. (2 marks)

(ii) Calculate the area of the circle. (2 marks)

END OF TEST

PRACTICE TEST EXAM 3

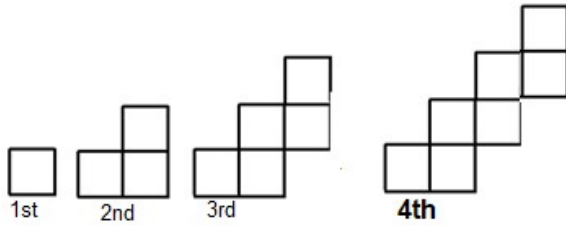
MARK SCHEME

Question 1	K	AT	R
<p>1. a. (i) Fraction of girls is $\frac{7}{7} - \frac{3}{7} = \frac{4}{7}$ (CAO)</p> <p>(ii) The total number of pupils in the class $\frac{4}{7}$ of class are girls: $\therefore \frac{4}{7} = 324$ Total number in class = $\frac{324}{4} \times 7$ $= 567$ pupils</p> <p>(b)</p>  <pre> graph TD A[15] --> B((x6)) B --> C[90] C --> D((x 1/3)) E[] --> D D --> F[30] </pre> <p>(First correct answer seen – R 1, next correct AT 1)</p>	<p>1</p>	<p>1</p>	<p>1</p>
	<p>1</p>	<p>2</p>	<p>2</p>

Question 2

K AT R

(a) The 4th Pattern



(Correct number of squares – R 1; Squares correctly attached AT 1)

(b)

Figure	Number of Squares
1	1
2	3
3	5
4	7
5	9

(Both correct)

(c)

$$\boxed{2} \times \boxed{20} - \boxed{1}$$

1		1
	1	
		1
	1	
1	2	2

Question 3	K	AT	R
<p>(a) Amala's phone cost:</p> $\begin{aligned} & \$180\,000 + 12\% \text{ of } \$180\,000 && \left\{ \text{Calculating } 12\% \right\} \\ & = \$180\,000 + \$21\,600 \\ & = \$201\,600 && \text{(CAO)} \end{aligned}$ <p>(b) Keston paid:</p> $\begin{aligned} & \$210\,000 - 3\% \text{ of } 210\,000 \\ & = \$210\,000 - \$6\,300 = \$203\,700 \end{aligned}$ <p>Keston paid $(\\$203\,700 - \\$201\,600) = \\$2100$ MORE</p>	<p>1</p>	<p>1</p> <p>1</p>	<p>1</p> <p>1</p>
	1	2	2
<p>Question 4</p> <p>(a) Ratio of green to red: 1:2</p> <p>(b) 1 box contains 4 green pencils \therefore 4 boxes will have 4×4 $= 16$ green pencils</p> <p>(c) 1 green pencil was replaced with 1 red \therefore new ratio of green to red is 3:9</p> <p>3 green pencils in 1 box 24 green pencils in $24 \div 3$ $= 8$ boxes</p>	<p>1</p>	<p>1</p> <p>1</p>	<p>1</p>
	1	2	2

Question 5	K	AT	R
<p>(a) (i) $2\frac{1}{3} - 1\frac{2}{5}$</p> <div style="border: 1px solid black; display: inline-block; padding: 2px; margin: 10px 0;"> Correct LCM and at least ONF numerator </div> $\frac{7}{3} - \frac{7}{5} = \frac{35 - 21}{15}$ $\frac{14}{15}$ <p>(ii) Answer correct to 1dp = $14 \div 15 = 0.9$</p> <p>(b) $\sqrt{39} + 2^2 = 13 + 4$ (AT 1 for clearing sq root) $= 17$ (AT 1 squaring 2 and adding)</p>	1	1 1 1 1	1 1
	1	2	2

Question 6	K	AT	R
<p>(a) Length of wire is 88 cm $\therefore P = 4t = 88 \text{ cm}$ \therefore 1 side of square is $88 \div 4 = 22 \text{ cm}$. $\therefore t = 88 \text{ cm} \div 4$</p> <p>(b) (i) the radius of the circle Circumference = 88 cm and $\pi = \frac{22}{7}$ Hence, $88 \text{ cm} = \frac{22}{7} \times \text{diameter}$ $\therefore \text{diameter} = (88 \times \frac{7}{22}) \text{ cm}$ { for finding diameter }</p> <p>Diameter is 28 cm</p> <p>\therefore radius is $28 \div 2 = 14 \text{ cm}$</p> <p>(ii) the area of the circle Area = $\pi \times r^2 = \frac{22}{7} \times 14 \times 14$ $= 616 \text{ cm}^2$</p>		1	1
	1	2	2