



EXAMINATIONS COUNCIL OF ESWATINI  
Eswatini General Certificate of Secondary Education

CANDIDATE  
NAME

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CENTRE  
NUMBER

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CANDIDATE  
NUMBER

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**MATHEMATICS**

SPECIMEN PAPER 1 Short answer Questions (Core)

6880/01

For Examination from 2021-2023

1 hour

Candidates answer on the Question paper.

Additional Materials: Scientific calculator  
Geometrical instruments  
Tracing paper (optional)

**READ THESE INSTRUCTIONS**

Write your Centre number, candidate number and name on the spaces provided.

Write in dark blue or black pen in the spaces provided on the Question paper.

You may use a soft pencil for any diagrams or graphs.

Do **not** use staples, paper clips, highlighters, glue or correction fluid.

Answer **all** questions.

Scientific calculators should be used.

If working is needed for any question it must be shown below that question.

The number of marks is given in brackets [ ] at the end of each question or part question.

If the degree of accuracy is not specified in the question, and if the answer is not exact, give the answer to three significant figures.

Give answers in degrees to one decimal place.

For  $\pi$ , use either your calculator value or 3.142.

The total of the marks for this paper is 60.

For  
Examiner's  
Use

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This document consists of **10** printed pages and **2** blank pages.

- 1 List all prime factors of 30.

Answer ..... [2]

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- 2 Tandzile has a cat.  
She feeds her cat  $\frac{2}{3}$  litre of milk each day.  
Milk is sold in 500 ml cartons in a shop.  
How many cartons must she buy to feed her cat for 10 days?

Answer.....cartons [3]

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- 3 Without using a calculator, work out.  
 $0.63 \div 0.7$   
You must show all your working.

Answer ..... [2]

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- 4 Express  $\frac{27}{40}$  as a percentage.

Answer ..... % [2]

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5 Express each of the following numbers as a power of 5.

(a) 125

*Answer (a)*..... [1]

(b) 0.2

*Answer (b)* ..... [1]

(c) 1

*Answer (c)*..... [1]

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6 There are 30 learners in a class.  
24 learners study Biology.  
19 learners study Chemistry.  
16 learners study both Biology and Chemistry.

(a) Draw a Venn diagram showing this information.

[3]

(b) How many learners **do not** study any of the two subjects?

*Answer(b)*.....learners [1]

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7 Factorise completely.

(a)  $81p - 18,$

Answer (a)..... [1]

(b)  $36 - 4x^2.$

Answer (b) ..... [2]

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8 Triangle  $EFG$  is such that  $\hat{EFG} = 53^\circ$ ,  $EF = 7$  cm and  $FG = 5$  cm.

(a) Draw accurately triangle  $EFG$ . [3]

(b) Measure and write down the length of  $EG$ .

Answer (b) .....cm [1]

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**9** The following are scores of 11 learners in a mathematics examination.

73    45    66    38    56    85    63    24    13    69    41

(a) Calculate the mean.

*Answer (a)*.....[3]

(b) Calculate the range.

*Answer (b)* .....[1]

**10** Tanele is  $x$  years old.  
Her brother is 2 years older than her.  
Their mother is five times as old as Tanele.  
The sum of all their ages is 79 years.

(a) Express the brother's age in terms of  $x$ .

*Answer (a)*.....[1]

(b) Form an equation in terms of  $x$ .

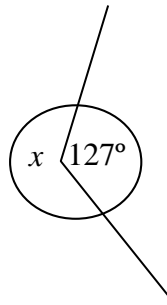
*Answer (b)* .....[1]

(c) Solve the equation to find Tanele's age.

*Answer(c)* .....years [2]

11

NOT TO SCALE



Calculate the size of the angle  $x$ .

Answer  $x = \dots\dots\dots^\circ$  [1]

12 Given that  $a = 0.23$  and  $b = 1.7$ , find

(a)  $ab^2$ ,

Answer (a)..... [1]

(b)  $(3a)^2 - 2b^2$ ,

Answer (b) ..... [1]

(c)  $\frac{a+b}{a-b}$ .

Answer (c)..... [1]

13 (a) Calculate the area of a circle of radius 2.2 m.

Answer (a)..... m<sup>2</sup> [2]

(b) A triangle has sides of lengths 3.5 cm, 12 cm and 12.5 cm.

Is the triangle right-angled? Justify your answer.

Answer (b).....  
.....  
..... [2]

14 The length of a side of a square is 9 cm.

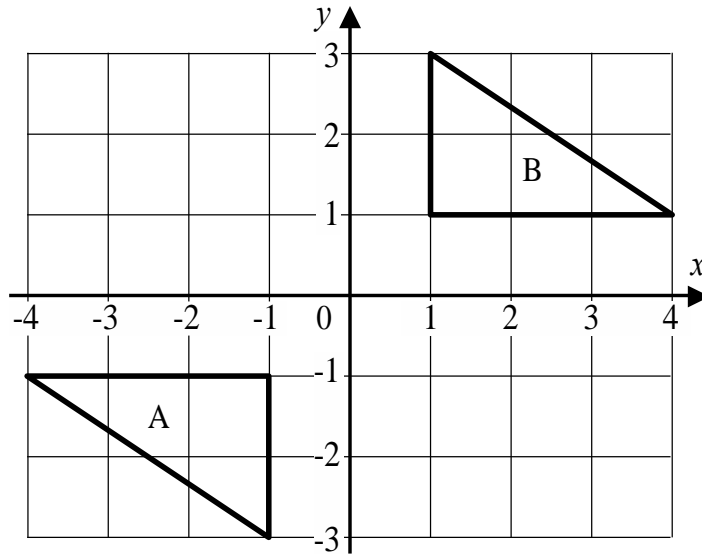
(a) Find the area of the square.

Answer (a)..... cm<sup>2</sup> [1]

(b) Calculate the length of the diagonal.

Answer(b)..... cm [2]

15 The diagram shows triangle A and triangle B.



Describe fully the **single** transformation that maps triangle A onto triangle B.

Answer.....  
..... [3]

16 The probability that it rains on a particular day is  $\frac{5}{8}$ .

Find the probability that it does not rain on this day.

Answer..... [2]



17 You are given that  $\overrightarrow{PR} = \begin{pmatrix} 8 \\ -4 \end{pmatrix}$  and  $\overrightarrow{RS} = \begin{pmatrix} 1 \\ 9 \end{pmatrix}$ .

(a) Find  $-2\overrightarrow{PR}$ .

Answer..... [1]

(b) Express  $\overrightarrow{PS}$  as a column vector.

Answer ..... [2]

18 (a) Simplify  $7 - 3(4 - 5d)$ .

Answer ..... [2]

(b) Express as a single fraction in its simplest form  $\frac{4-r}{5} + \frac{7r+1}{15}$ .

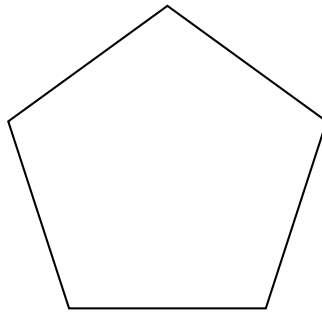
Answer..... [3]

- 19 You are given that  $M = \begin{pmatrix} -1 & 3 \end{pmatrix}$  and  $N = \begin{pmatrix} 4 \\ 1 \end{pmatrix}$ .  
Calculate  $NM$ .

Answer ..... [2]

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- 20 The diagram shows a regular pentagon.



NOT TO SCALE

- (a) Write down the sum of its exterior angles.

Answer(a)..... [1]

- (b) Calculate the size of an interior angle of the pentagon.

Answer(b) ..... [2]

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