EXAMINATIONS COUNCIL OF ESWATINI
Eswatini General Certificate of Secondary Education

CANDIDATE NAME									
CENTRE NUMBER						CANDIDATE NUMBER			

MATHEMATICS **6880/01**

Paper 1 Short-Answer Questions (Core) **October/November 2023**

Candidates answer on the Question Paper. **1 hour**

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

READ THESE INSTRUCTIONS FIRST

Write your Centre number, candidate number and name in 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.

All working should be clearly shown below that question.
The number of marks is given in brackets [ ] at the end of each question **or** part question.

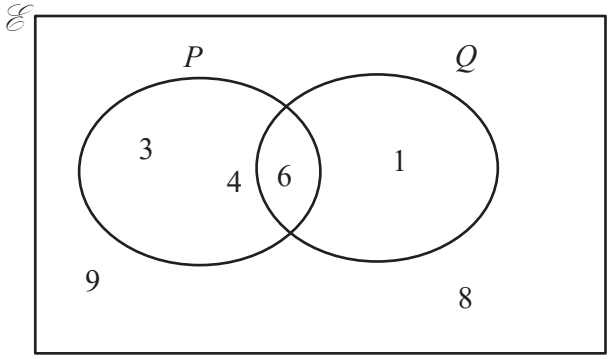
Scientific calculators should be used.
If the degree of accuracy is not specified in the question, and if the answer is not exact, give the answer to three significant figures.
Give answers in degrees to one decimal place.
For π, use either your calculator value or 3.142.

The total of the marks for this paper is 60.

For Examiner's Use	
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
Total	

This document consists of **12** printed pages.

1 The Venn diagram shows the universal set, $\mathscr{E}$, with sets P and Q.



Use the diagram to list the members of

(a) $P \cap Q$,

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

(b) $P \cup Q$.

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

---

2 Evaluate $2^2 \times 3^2$.

Answer ..... [1]

---

3 Write the following number in numerical form.

Seven hundred thousand, two hundred and thirty.

Answer ..... [1]

---

4 Round the following numbers correct to the nearest 5.

(a) 12

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

(b) 104

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

---

5 Arrange the numbers below starting with the smallest.

$$\frac{1}{5^{-2}} \qquad 5^{-2} \qquad 100^{0} \qquad 5$$

Answer ....., ..., ..., ... [2]
Smallest

---

6 The ratio of Themba's salary for the year 2020 to his salary for the year 2021 was 8 : 9.

His salary in 2021 was E1800.

Work out his salary for the year 2020.

Answer E ..... [2]

---

7 In a sale, the price of a radio was reduced by 15%.

The original cost of the radio was E250.

Calculate the new price of the radio.

Answer E ..... [3]

---

8 Dr. Nkosi took a loan of E11 000 for 5 years.

The loan provider charged compound interest of 8% per annum.

Work out the total amount he would pay at the end of the 5 years.

Answer E ..... [3]

[Turn over

9 Mrs. Mbambo is charged 13% tax on the amount of her salary that exceeds E2000 each month.

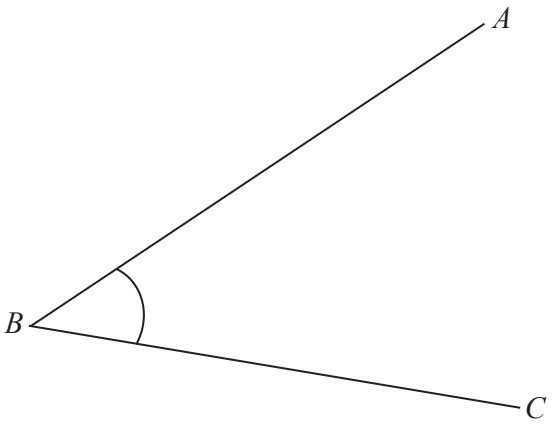
In one month her salary was E2600.

Work out the tax she paid in that month.

Answer E ..... [2]

---

10 The figure shows line *AB* and line *BC*.



(a) Measure and write down the length of line *AB* in centimetres.

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

(b) Measure and write down the size of angle *ABC*.

Answer (b) .....° [1]

(c) State what type of angle is *ABC*.

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

(d) Point *D* is 2 cm from point *A* and 5 cm from point *C*.

Show and label a possible position for *D*.

[1]

---

11 State the order of rotational symmetry for each of the following.

(a) A regular decagon

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

(b) A scalene triangle

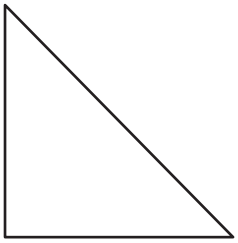
Answer (b) ..... [1]

(c) A parallelogram.

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

---

12 The figure shows the cross section of a prism.



(a) State the name of the prism.

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

(b) State the number of faces, edges and vertices for the prism

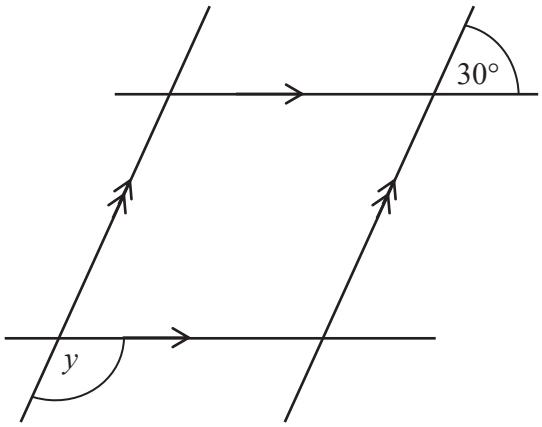
Answer (b) faces ..... [1]

edges ..... [1]

vertices ..... [1]

---

13 The figure shows two pairs of parallel lines.



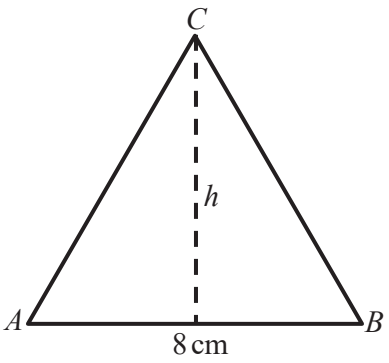
NOT TO SCALE

Work out angle y.

Answer y = ...° [2]

14 The area of an isosceles triangle ABC is $24\,\text{cm}^2$.

$AB = 8\,\text{cm}$



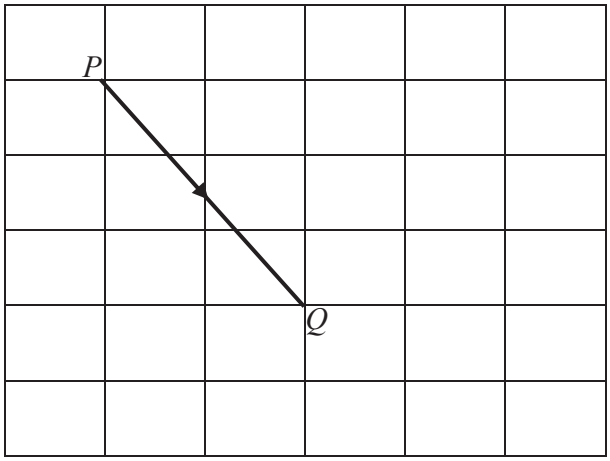
NOT TO SCALE

Calculate the height, h, of the triangle.

Answer $h =$ ..... [2]

---

15 **(a)** Write vector PQ as a column vector.



Answer (a) [2]

(b) Find $\left|\begin{pmatrix} -3 \\ 7 \end{pmatrix}\right|$

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

[Turn over

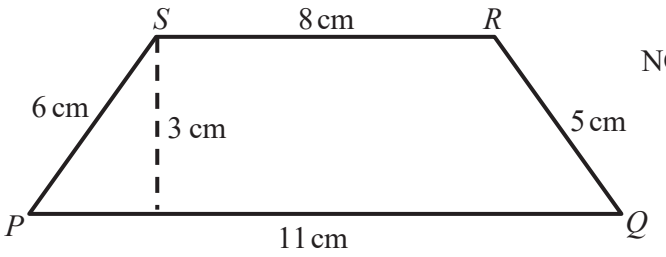
16 The height of Trapezium *PQRS* is 3 cm.

The length of *PQ* is 11 cm.

The length of *QR* is 5 cm.

The length of *RS* is 8 cm.

The length of *SP* is 6 cm.



Calculate

(a) the perimeter,

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

(b) the area of the trapezium.

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

17 A tourist recorded the number of different animals she saw at a game reserve in Eswatini.

She recorded a total of 30 animals.

Name of animal	Number of animals
Impala	5
Springbok	6
Warthog	9
Wildebeest	7
Lion	1
Leopard	2

(a) State the mode.

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

(b) An animal is chosen at random.

Calculate the probability that the name of the animal starts with the letter W.

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

(c) A pie chart is to be drawn to show this information.

Work out the sector angle representing springbok.

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

[Turn over

18 **(a)** The probability that Nomzamo sings while sweeping the yard is 0.7.

Find the probability that Nomzamo does not sing while sweeping the yard.

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

(b) There are 15 apples in a bag.

A fruit is picked at random from the bag.

State the probability that it is

(i) an apple,

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

(ii) an orange.

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

19 **(a)** x is multiplied by 3 then 10 is added.

Write the statement above in function notation.

Answer (a) f(x) = ... [1]

(b) f(x) = x – 6

Find the range of the following function for the domain {–2, 0, 5}.

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

(c) Find the inverse of the function h(x) = x + 8.

Answer (c) $h^{-1}(x)$ = ... [2]

---

20 **(a)** The equation of a straight line is $y = -8x$.

State the y-intercept of the line.

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

(b) Calculate the gradient the straight line that passes through the points (7, 2) and (14, 6).

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

---

21 Solve the following equations.

(a) $2x - 7 = 8$

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

(b) $x^2 + 30x = 0$

Answer (b) x = ... or x = ... [2]

---

22 Simplify.

$$\frac{4x}{3} \div \frac{7x^2}{9}$$

Answer ..... [2]