NAMIBIA SENIOR SECONDARY CERTIFICATE

MATHEMATICS ORDINARY LEVEL   6131/1

PAPER 1   2 hours

Marks 80   **2022**

Additional Material: Geometrical instruments
                        Non-programmable calculator

INSTRUCTIONS AND INFORMATION TO CANDIDATES

· Candidates answer on the Question Paper in the spaces provided.

· Write your Centre Number, Candidate Number and Name in the spaces at the top of this page.

· Write in dark blue or black pen.

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

· Do not use correction fluid.

· Do not write in the margin *For Examiner's Use*.

· Answer **all** questions.

· If working is needed for any question it must be shown below, or where working is indicated.

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

· Non-programmable calculators may 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 for angle sizes to **one** decimal place.

· For π, either use your calculator value, or use 3.142.

For Examiner's Use	
Marker	
Checker	

This document consists of **15** printed pages and **1** blank page.

Republic of Namibia
MINISTRY OF EDUCATION, ARTS AND CULTURE

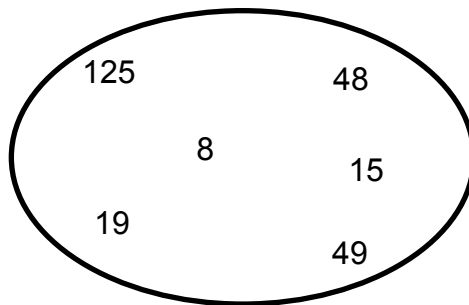**1** Calculate $\sqrt{56.25} + \sqrt[3]{2.515456}$.

Answer .... [1]

2 Write down in figures, two hundred sixty-five thousand nine hundred.

Answer... [1]

3 Find the integer closest to $(-2.4)^2$.

Answer .... [1]

4

125   48

8

15

19

49

From the numbers in the oval,
Write down a

(a) multiple of 6,

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

(b) square number,

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

(c) prime number.

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

5 Write down 2.795 correct to 1 decimal place.

Answer .... [1]

6 A concert is attended by 576 men and 720 women.

Write down the ratio of men : women.
Give your answer in simplest form.

Answer .... : .... [1]

7 The temperature on Monday at noon was 1 °C.
By Tuesday at noon, the temperature had dropped by 4 °C.

What was the temperature on Tuesday at noon?

Answer .... °C [1]

8 The table shows the electricity meter readings for a household in Windhoek for March 2021.

meter readings (in kilowatt hours)		
previous	current	consumption
94 851	95 322	

The electricity costs N$ 1.43 per unit.

Calculate the total cost charged for electricity consumption in this household for March 2021.

Answer N$ .... [2]

[Turn over

9 Insert the correct symbol $>$, $<$ or $=$ to make each statement correct.

   (a) 0.27 ...... $\dfrac{3}{11}$ [1]

   (b) $\dfrac{1}{\sqrt{7}}$ ...... $\sqrt{\dfrac{1}{7}}$ [1]

   (c) -2.15 .... -2.5 [1]

---

10 Fill the missing number on the dotted line so that the two fractions are equivalent.

$$\frac{......}{7} \;=\; \frac{36}{63}$$

                                                      [1]

---

11 Estelle buys 0.345 kg of nuts for N$ 24.84.

Calculate the cost per 100 kilograms of nuts.

Answer N$ .... [1]

---

12 Ruth pays $\dfrac{3}{8}$ of her monthly earnings as a tax.

She pays N$ 9 450 in tax.

Calculate her monthly earnings.

Answer N$ .... [2]

---

13 A grandmother gave a certain sum of money to be shared between her grandchildren Maya and Carl in the ratio 4 : 5.

Carl received N$ 600.

Calculate the total amount that the grandmother gave to her grandchildren Maya and Carl.

Answer N$ .... [2]

14 Mr Simasiku changed $ 870 into euros. The exchange rate was €1 = $ 1.18.

Calculate the amount of euros he receives.

Answer €... [1]

15 A bus leaves Walvis Bay at 13 : 09 and arrives in Outapi at 22 : 37.

How long did the journey take?

Answer .... h .... min [2]

16 Kane invests N$ 2000 at a rate of 3% per year simple interest.

Calculate the total interest Kane has after 6 months.

Answer N$.................................... [2]

17 The length of a rope, l, is 8.3 cm correct to 1 decimal place.

Complete the statement for the length of a rope, l cm.

Answer   .... ≤ l < .... [2]

18 In June, the number of people that visited the Namib desert was 1 980.
This number of visitors is 10% more than visitors in May.

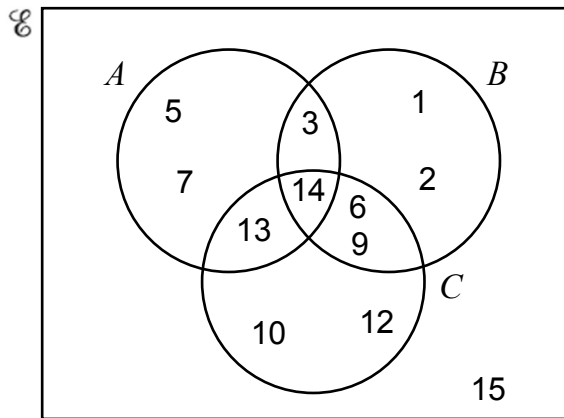Calculate the number of people that visited the Namib desert in May.

Answer .... people [2]

[Turn over

19 It takes 15 women 42 hours to harvest a field of groundnuts.

How many women would be required to harvest the same field at the same rate in 35 hours.

Answer .... women   [2]

20

Three sets of numbers A, B and C are shown on the Venn diagram.
Use the Venn diagram to answer the following questions.

(a) Find $n (B \cap C)$.

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

(b) List the elements of $(A \cup B)'$.

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

(c) On the Venn diagram, shade $(B \cup C)' \cap A$.   [1]

21 Solve the inequality $3x - 4 > 16 - 2x$.

Answer...   [2]

22 Two functions $f(x) = 19 - 4x$ and $g(x) = 7x - 3$ are given.

(a) Find $g^{-1}(x)$.

Answer (a) .... [2]

(b) Find $fg(x)$ in its simplest form.

Answer (b) .... [2]

[Turn over

23 The diagram shows line Q and a curve.
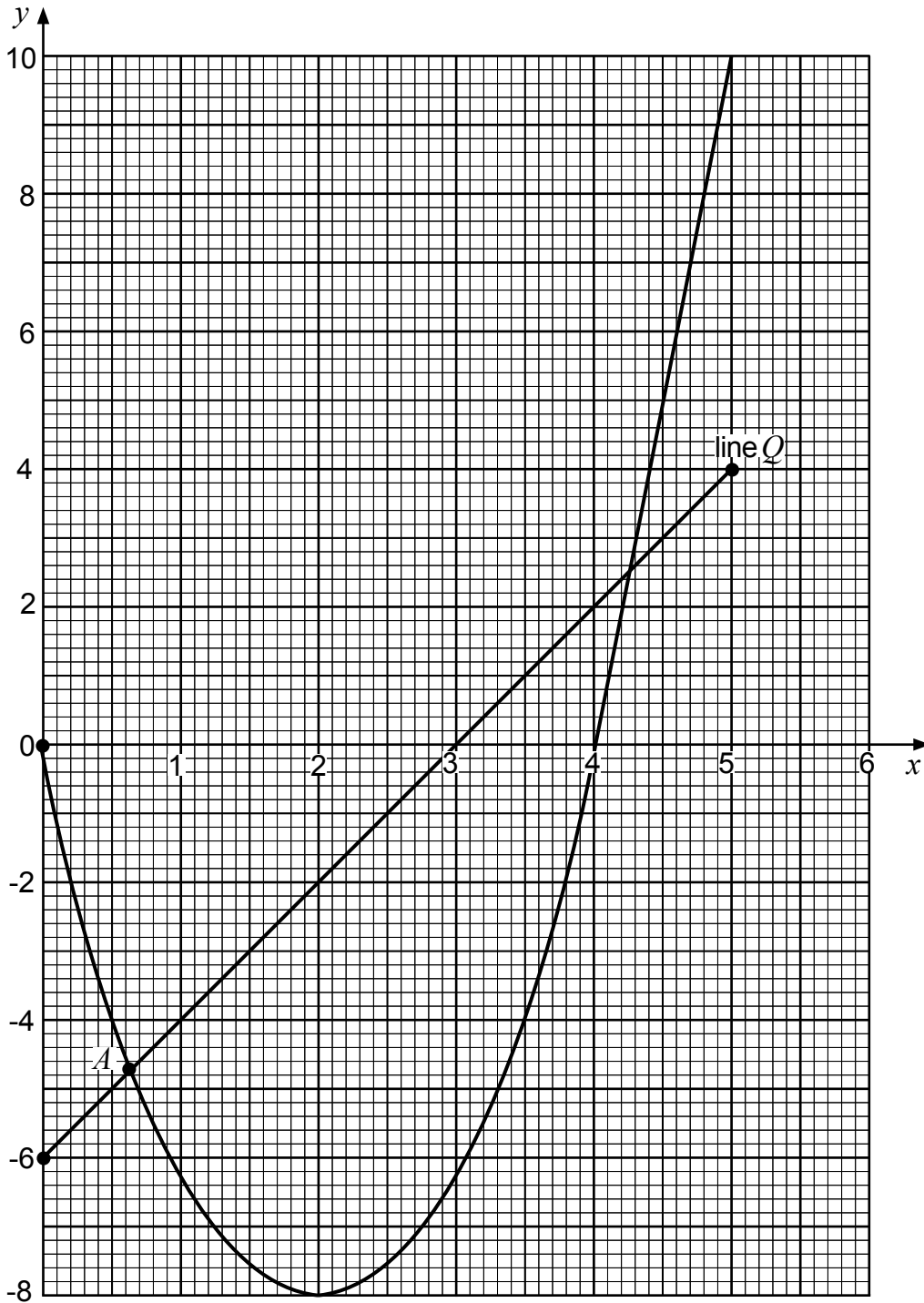
(a) Write down the coordinates of point A, where line Q meets the curve.

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

(b) Find the equation of line Q.

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

(c) By drawing the tangent to the curve at point (2, − 8), write down the gradient of the curve at this point.

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

---

24 Expand and simplify $(3n - 2)^2 + 3n(n + 5)$.

Answer .... [3]

---

25 Find the quotient and the remainder when $2m^3 - m^2 - 36m + 32$ is divided by $m - 5$.

Quotient ....

Remainder .... [3]

[Turn over

26 Solve the following equations.

(a) $5q^2 = 80$

Answer **(a)** .... [2]

(b) $5(6)^x = 65$

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

27 Simplify

$$\frac{5^{x-y} \times (125)^{3x-y}}{(25)^x}$$

Answer... [4]

28 The probability of Bianca passing her first maths test is $\frac{3}{5}$.

The probability of Bianca passing her second maths test is $\frac{4}{5}$.

Calculate the probability of Bianca passing her first maths test and failing her second maths test.

Answer.. [2]

---

29 *PT* is a targent to the semi-circle with centre *O*. *AOBP* is a straight line.
Angle *TAO* = 28°.

NOT TO
SCALE
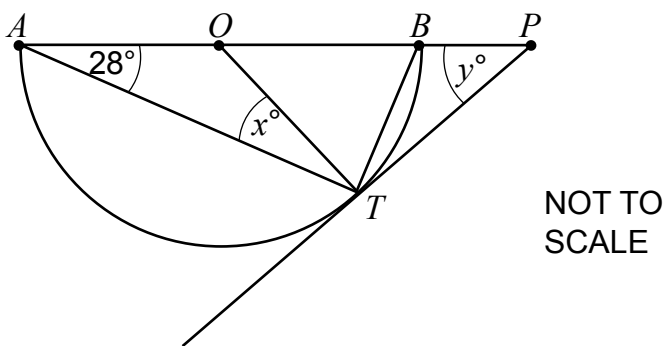
Find the value of angle

(a) *x*,

Answer **(a)** *x*= ....° [1]

(b) *y*.

Answer **(b)** *y*= ....° [2]

[Turn over

30 The mean height of six learners in a group is 1.8 m.

Ndahafa joined the group and the new mean height is now 1.75 m.
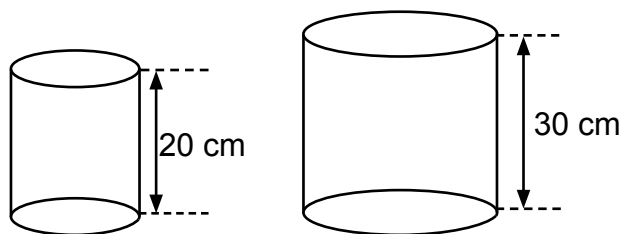Calculate the height of Ndahafa.

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

31
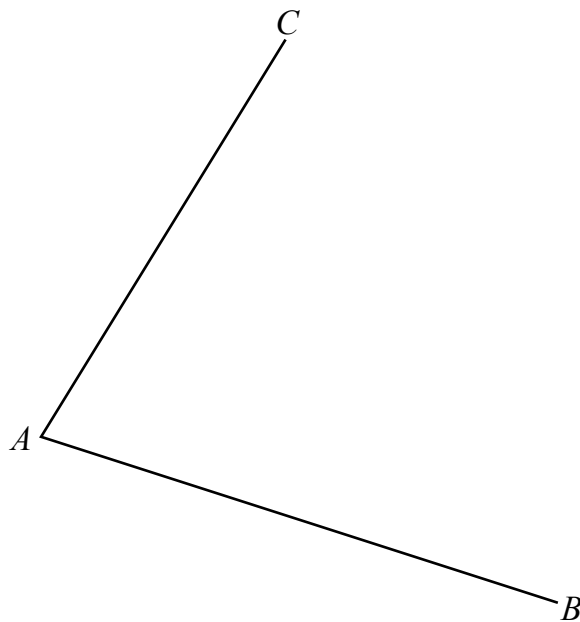
Using a ruler and compasses only, construct the bisector of angle BAC.   [2]
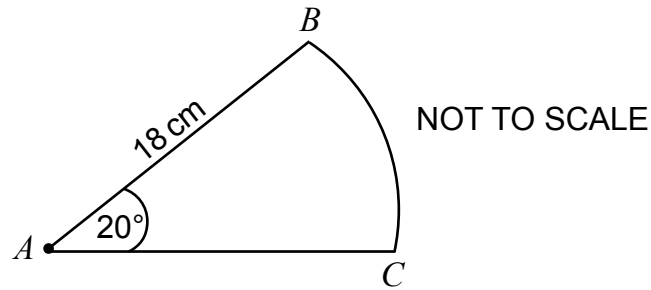
32 The two cylinders are mathematically similar.

20 cm

30 cm

NOT TO
SCALE

The total surface area of the smaller cylinder is 240 cm^2.

Calculate the total surface area of the bigger cylinder.

Answer .... cm^2 [2]

[Turn over

33 The diagram shows a sector of a circle with centre A and a radius of 18 cm. Angle $BAC = 20°$.

NOT TO SCALE

(a) Calculate the circumference of a circle of radius 18 cm.

Answer **(a)** .... cm   [2]

(b) Calculate the area of sector ABC.

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

34 Triangle ABC has AB = 4.5 cm AC = 8 cm and BC = 4 cm
A is due to the south of B.

North

C

4 cm

B

4.5 cm

8 cm

NOT TO
SCALE

A
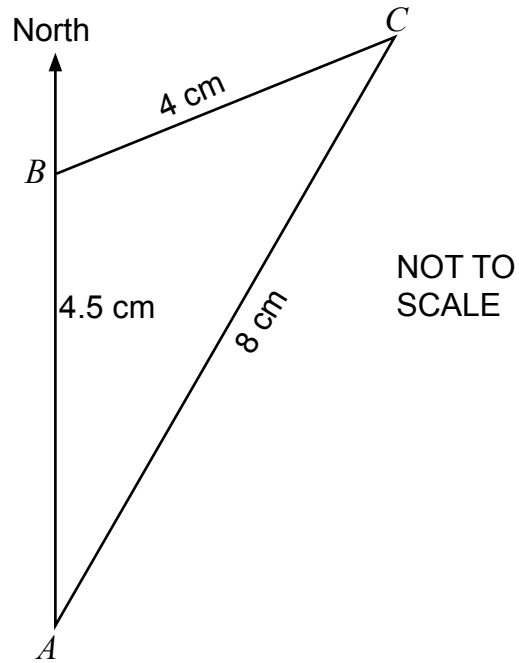
(a) Calculate angle ABC.

Answer **(a)** ....° [4]

(b) Find the bearing of C from B.

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

BLANK PAGE