



|  |
|--|
|  |
|--|

|  |  |  |  |  |
|--|--|--|--|--|
|  |  |  |  |  |
|--|--|--|--|--|

|  |  |  |  |
|--|--|--|--|
|  |  |  |  |
|--|--|--|--|

## 6880/01

October/November 2021

1 hour

Additional Materials: Geometrical instruments  
Tracing paper (optional)

**For Examiner's Use**

1

2

2

3

4

5

6

7

8

9

10

11

40

10

---

14

13

16

17

18

19

20

21

**Total**

© ECESWA 2021

**[Turn over**

- 1** On a particular day, the temperature in Lavumisa is  $12^{\circ}\text{C}$ .

On the same day, the temperature in Mbabane is  $-1^{\circ}\text{C}$ .

- (a)** Find the temperature difference between Mbabane and Lavumisa.

*Answer (a)* .....  $^{\circ}\text{C}$  [1]

- (b)** Pigg's Peak is  $2^{\circ}\text{C}$  colder than Mbabane.

Find the temperature in Pigg's Peak.

*Answer (b)* .....  $^{\circ}\text{C}$  [1]

- (c)** The temperature in Mbabane increases by  $7^{\circ}\text{C}$ .

Find the new temperature.

*Answer (c)* .....  $^{\circ}\text{C}$  [1]

- 2** Arrange the numbers in order size starting with the largest.

$$-0.77 \quad \frac{7}{9} \quad -\frac{7}{9} \quad 0 \quad 77.7\%$$

*Answer* ....., ....., ....., ....., ..... [2]  
largest

3

- 3 Without using a calculator, work out  $2\frac{3}{4} \div \frac{4}{5}$ .

Show all your working.

Give your answer as a mixed number.

Answer ..... [3]

- 4 (a) Express 0.002 45 in standard form

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

- (b) Work out.

$$\frac{1.23 \times 10^8 - 7 \times 10^3}{2 \times 10^{-4}}.$$

Give your answer in standard form.

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

- 5** Tanele invests E75 500 at a rate of 6% simple interest per annum.

Calculate the interest she will receive after 30 months.

*Answer E* ..... [3]

---

- 6 (a)** Write down the mathematical name of a polygon that has seven sides.

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

- (b)** State the mathematical name of a triangle with exactly two equal sides.

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

- (c)** Write down the mathematical name of a regular quadrilateral.

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

7 In this question use a ruler and a pair of compasses only.

Construct a triangle with sides of lengths 4 cm, 6 cm and 8 cm.

[3]

---

8 (a) Factorise.

$$14a - 21$$

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

(b) Remove brackets and simplify.

$$3(x - 2) + 4(1 + x)$$

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

---

9 Solve the inequality.

$$3(5 - 2y) < 4$$

Answer ..... [3]

---

10 Work out.

$$\begin{pmatrix} 1 \\ -2 \end{pmatrix} + 3 \begin{pmatrix} 2 \\ -1 \end{pmatrix}$$

Answer ..... [2]

---

11 The ratio of Mandla's height to Sipiwe's height is 6 : 7.  
Sipiwe is 1.75 m tall.

Calculate Mandla's height.

Answer ..... m [2]

---

**12** You are given the function  $f(x) = 5x - 3$ .

**(a)** Evaluate  $f(x)$  when  $x = \frac{2}{3}$ .

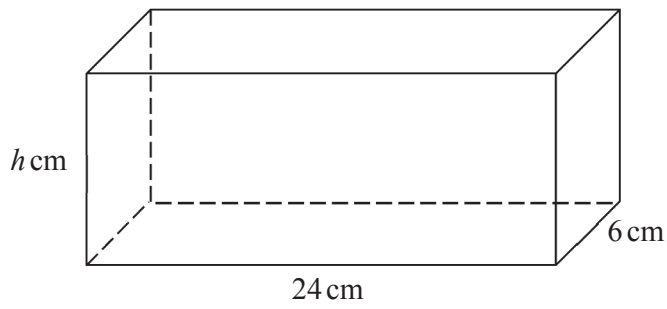
*Answer (a)*  $f(x) = \dots\dots\dots$  [2]

**(b)** Find  $f^{-1}(x)$

*Answer (b)*  $f^{-1}(x) = \dots\dots\dots$  [2]

---

- 13 The diagram shows a cuboid.



NOT TO SCALE

The volume of the cuboid is  $1296 \text{ cm}^3$ .

The length of the cuboid is 24 cm.

The width of the cuboid is 6 cm.

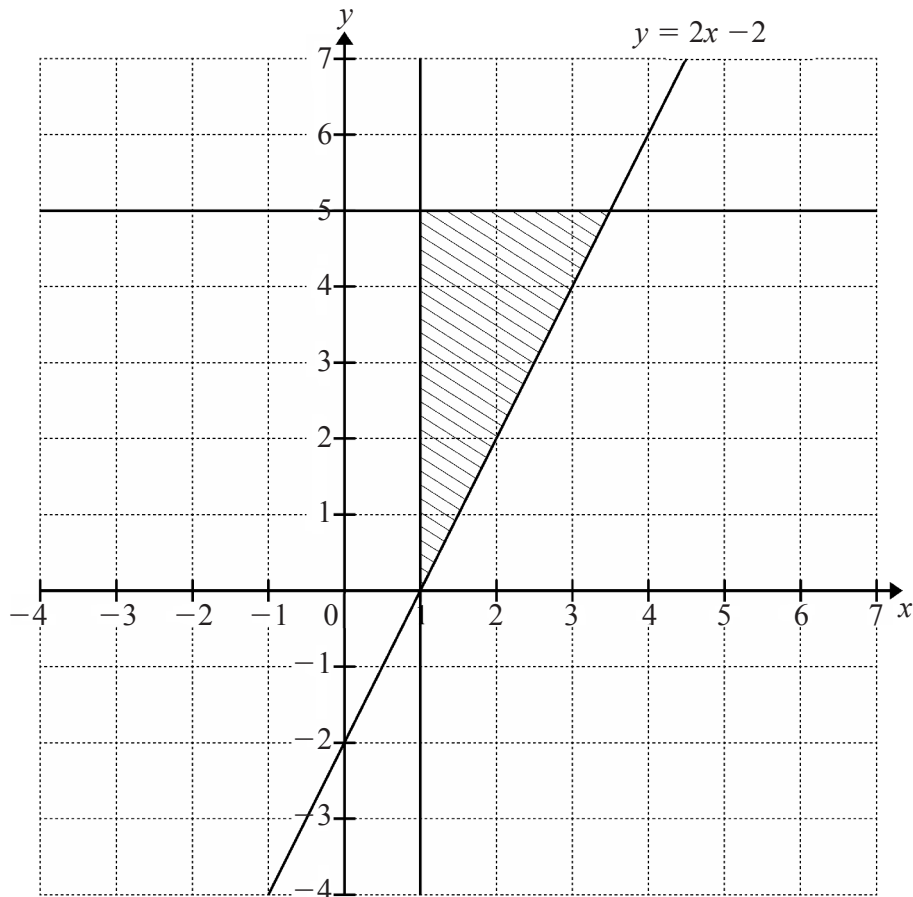
The height of the cuboid is  $h$  cm.

Calculate the value of  $h$ .

Answer  $h = \dots\dots\dots$  cm [2]

---

- 14 In the diagram, the shaded region is enclosed by three lines.



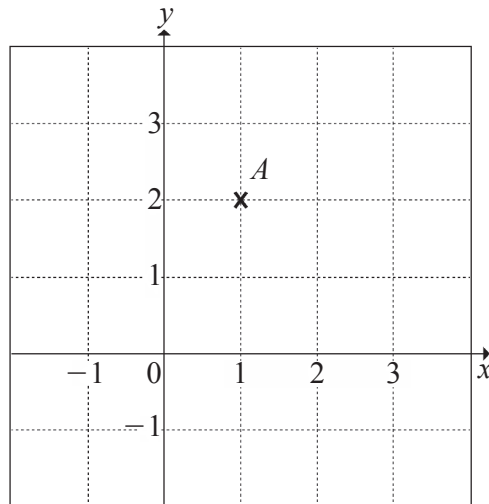
Write down three inequalities satisfied by the shaded region.

Answer .....

.....

..... [3]

15 The diagram shows point  $A$ .



(a) Write down the coordinates of point  $A$ .

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

(b) On the diagram, plot the point  $C$  with coordinates  $(3, -1)$ . [1]

---

- 16** The diagram shows a regular polygon.

Calculate the size of an interior angle of a regular pentagon.

Answer ..... ° [2]

---

- 17 (a)** A bird on a tree looks down and sees a rat on the ground.

The angle of depression of the rat from the bird is  $63^\circ$ .

Write down the angle of elevation of the bird from the rat.

Answer (a) ..... ° [1]

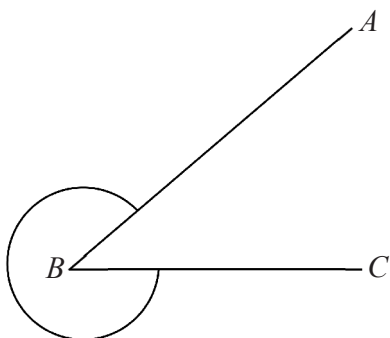
- (b)** The bearing of town  $P$  from town  $Q$  is  $320^\circ$ .

Calculate the bearing of town  $Q$  from town  $P$ .

Answer (b) ..... ° [2]

---

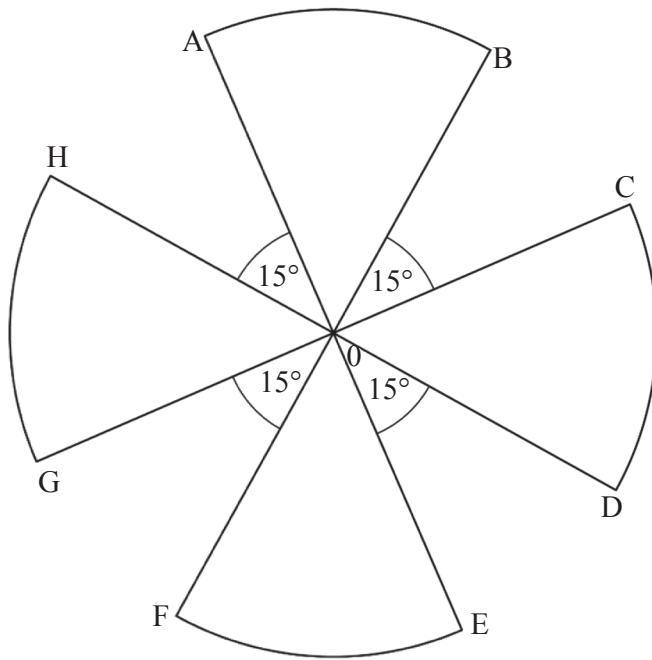
- 18 Measure and write down the size of reflex angle  $\widehat{ABC}$ .



Answer Reflex angle  $\widehat{ABC} = \dots\dots\dots^\circ$  [2]

---

- 19** The figure shows the design of a logo of a school food company.  
The sectors  $OAB$ ,  $OCD$ ,  $OEF$  and  $OGH$  are **identical**.  
Each sector has a radius 5 cm.  
The angles in between the sectors are all  $15^\circ$ .



NOT TO SCALE

**(a)** Calculate

**(i)** the sector angle  $AOB$ .

Answer (a)(i) ..... $^\circ$  [1]

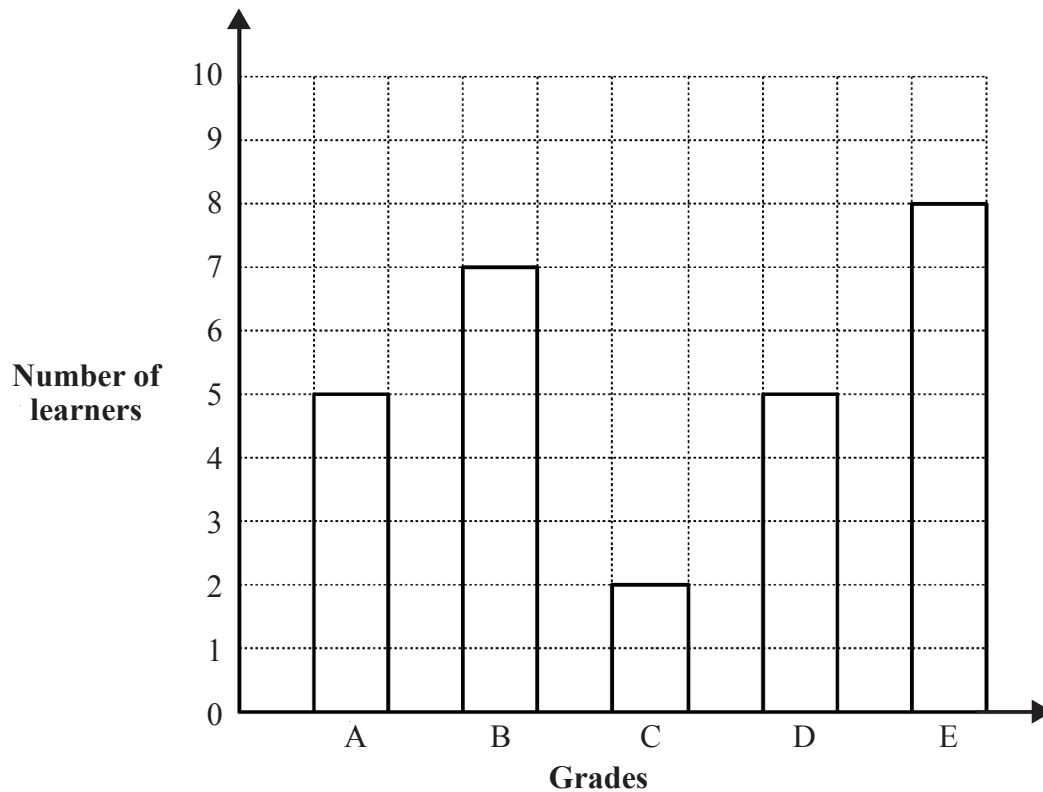
**(ii)** the total area covered by the four sectors.

Answer (a)(ii) .....  $\text{cm}^2$  [3]

**(b)** State the order of rotational symmetry of the logo.

Answer (b) order of rotational symmetry ..... [1]

- 20 The bar chart shows grades obtained by a group of learners.



- (a) Find the total number of learners that were in the group.

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

- (b) Find the number of learners that got lower than grade C.

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

- (c) Write down the modal grade.

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

21 (a) Simplify.

$$12x^3y \div 36xy^2$$

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

(b) Express as a single fraction in its simplest form.

$$\frac{x}{2} - \frac{x-1}{5}$$

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

---