

EXAMINATIONS COUNCIL OF SWAZILAND
Swaziland General Certificate of Secondary Education

CANDIDATE
NAME

--

CENTRE
NUMBER

--	--	--	--	--

CANDIDATE
NUMBER

--	--	--	--

MATHEMATICS

6880/01

Paper 1 Non-Calculator Short Answer Questions (Core and Extended)

October/November 2018

Candidates answer on the Question Paper.

1 hour 30 minutes

Additional Materials: Geometrical instruments
Tracing paper (optional)

READ THESE INSTRUCTIONS FIRST

Write your Centre number, candidate number and name on all the work you hand in.

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

You may use an HB pencil for any diagrams or graphs.

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

You are **not** allowed to use a calculator.

Answer **all** questions.

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.

The total of the marks for this paper is 60.

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

This document consists of 11 printed pages and 1 blank page.

- 1 (a) Express 72 as a product of its prime factors.

Answer (a) [1]

- (b) Find the highest common factor of 210 and 280.

Answer (b) [1]

- 2 (a) State the number of significant figures in the number 22 002.

Answer (a) [1]

- (b) Express 2069 correct to the nearest 20.

Answer (b) [1]

- 3 Write the following ratios in their simplest forms.

- (a) 21 : 49

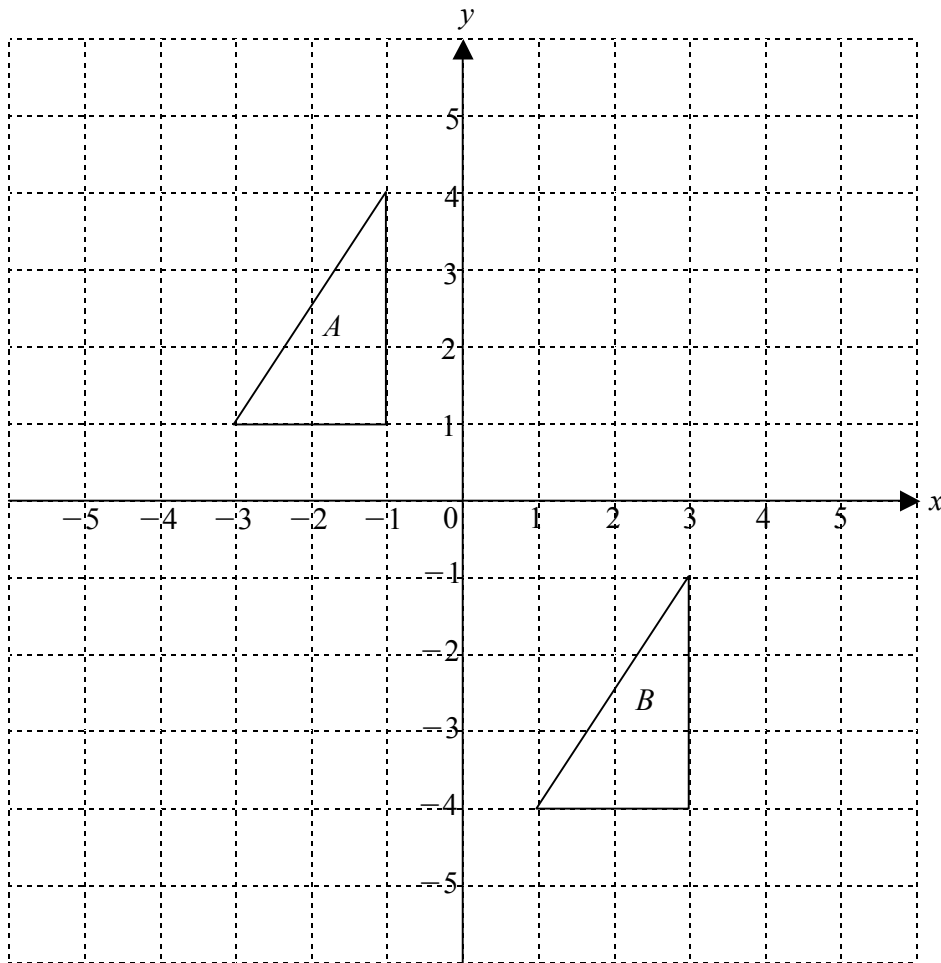
Answer (a) [1]

- (b) 50 cm : 2 m

Answer (b) [2]

4 Triangle A has vertices $(-3, 1)$, $(-1, 1)$ and $(-1, 4)$.

Triangle B has vertices $(1, -4)$, $(3, -1)$ and $(3, -4)$.



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

Answer (a) [2]

(b) Triangle A is mapped onto triangle C by a reflection in the x -axis.

Draw and label triangle C . [2]

- 5 (a) Convert 6.3 litres to millilitres.

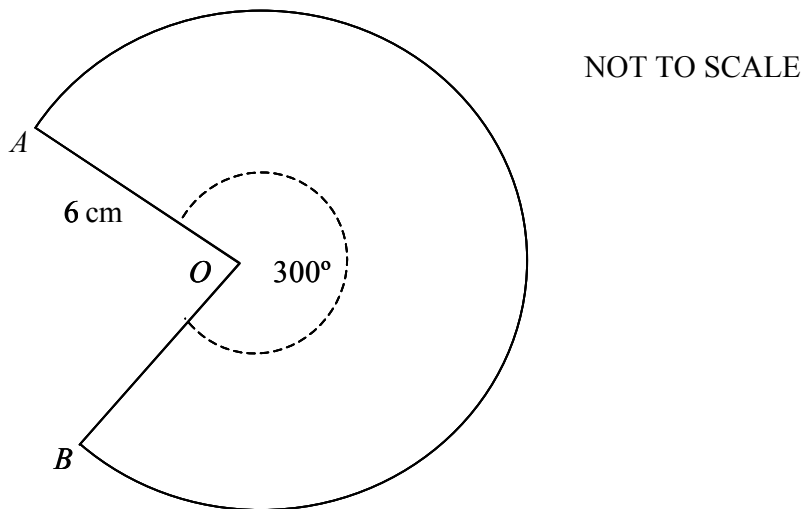
Answer (a)millilitres [1]

- (b) Convert 0.25 hours to minutes.

Answer (b)minutes [1]

- 6 The diagram shows a sector AOB of radius 6 cm.

The sector angle is 300° .



(Use $\pi = 3.14$)

Calculate

- (a) the length of major arc AB ,

Answer (a)cm [3]

- (b) the perimeter of the sector.

Answer (b) cm^2 [1]

- 7 Arrange the fractions in order of size, starting with the smallest.

$$\frac{2}{3} \quad \frac{4}{5} \quad \frac{1}{2} \quad \frac{5}{6} \quad \frac{7}{15}$$

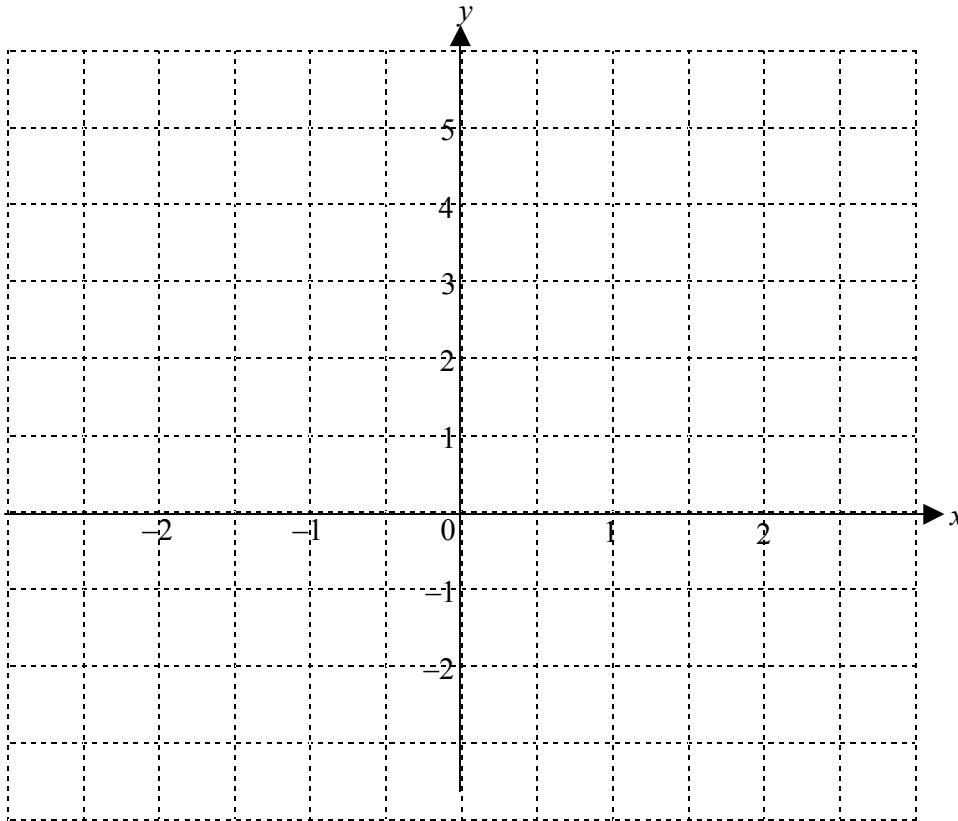
Answer,,,,, [3]
smallest

- 8 (a) Complete the table for $y = x^2$.

x	-2	-1	0	1	2
$y = x^2$			0		4

[1]

- (b) On the grid, draw the graph of $y = x^2$ for $-2 \leq x \leq 2$.



[2]

- 9 (a) You are given that $y = 3x + 2$.

Find the value of y when $x = 5$.

Answer (a) [1]

- (b) Remove brackets and simplify.

$$3(2x + 4) + 2(5x - 1)$$

Answer (b) [2]

- 10 The diagram shows part of a regular polygon.

The size of an exterior angle of the polygon is 24° .

NOT TO SCALE



Calculate

- (a) the size of each interior angle,

Answer (a) $^\circ$ [2]

- (b) the number of sides of the polygon.

Answer (b) [2]

- 11 (a)** Factorise completely the following expression.

$$15a^2b - 40ab^2$$

Answer (a) [2]

- (b)** Solve the equation for x

$$4(x - 1) = 5$$

Answer (b) x = [2]

- 12** Tanele invests E2500 in a bank at 6% per annum simple interest.

Calculate the interest she earns after 30 months.

Answer E [3]

- 13** Andile is x years old.

His father is 25 years older than him.

- (a)** Write down an expression for the father's age.

Answer (a) [1]

- (b)** The sum of their ages is 37.

Write down an equation in x and solve it to find Andile's age.

Answer (b) [2]

14 Express the following as a single fraction as simply as possible.

$$\frac{a-3}{2} - \frac{a+5}{4}$$

Answer [3]

15 $PQRS$ is a quadrilateral.

$$PQ = 9 \text{ cm}, QR = 6 \text{ cm}, RS = 7 \text{ cm}.$$

$$\hat{PQR} = 38^\circ \text{ and } \hat{SPQ} = 120^\circ$$

(a) Draw quadrilateral $PQRS$ accurately.

PQ is drawn for you.

P _____ Q [3]

(b) Measure and write down the length of side PS .

Answer (b)cm [1]

16 You are given that y varies directly as x .

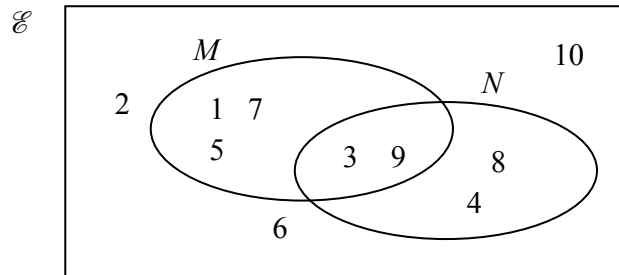
The table shows values of x and y .

x	4	6	10
y	6	9	p

Find the value of p .

Answer $p =$ [2]

17 The Venn diagram shows the universal set \mathcal{E} , set M and set N .



List the members of the following sets.

(a) M

Answer (a) [1]

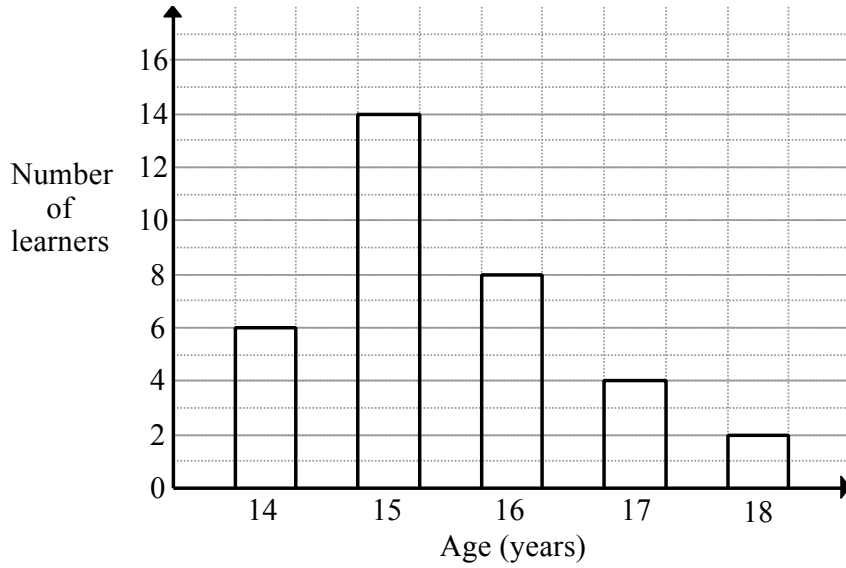
(b) $M \cup N$

Answer (b) [1]

(c) N'

Answer (c) [1]

18 The bar chart shows the ages of learners in a class.



(a) (i) How many learners are 16 years old?

Answer (a)(i) [1]

(ii) Find the total number of learners in the class.

Answer (a)(ii) [2]

(b) A learner is chosen from the class.

Find the probability that the learner is

(i) 14 years old,

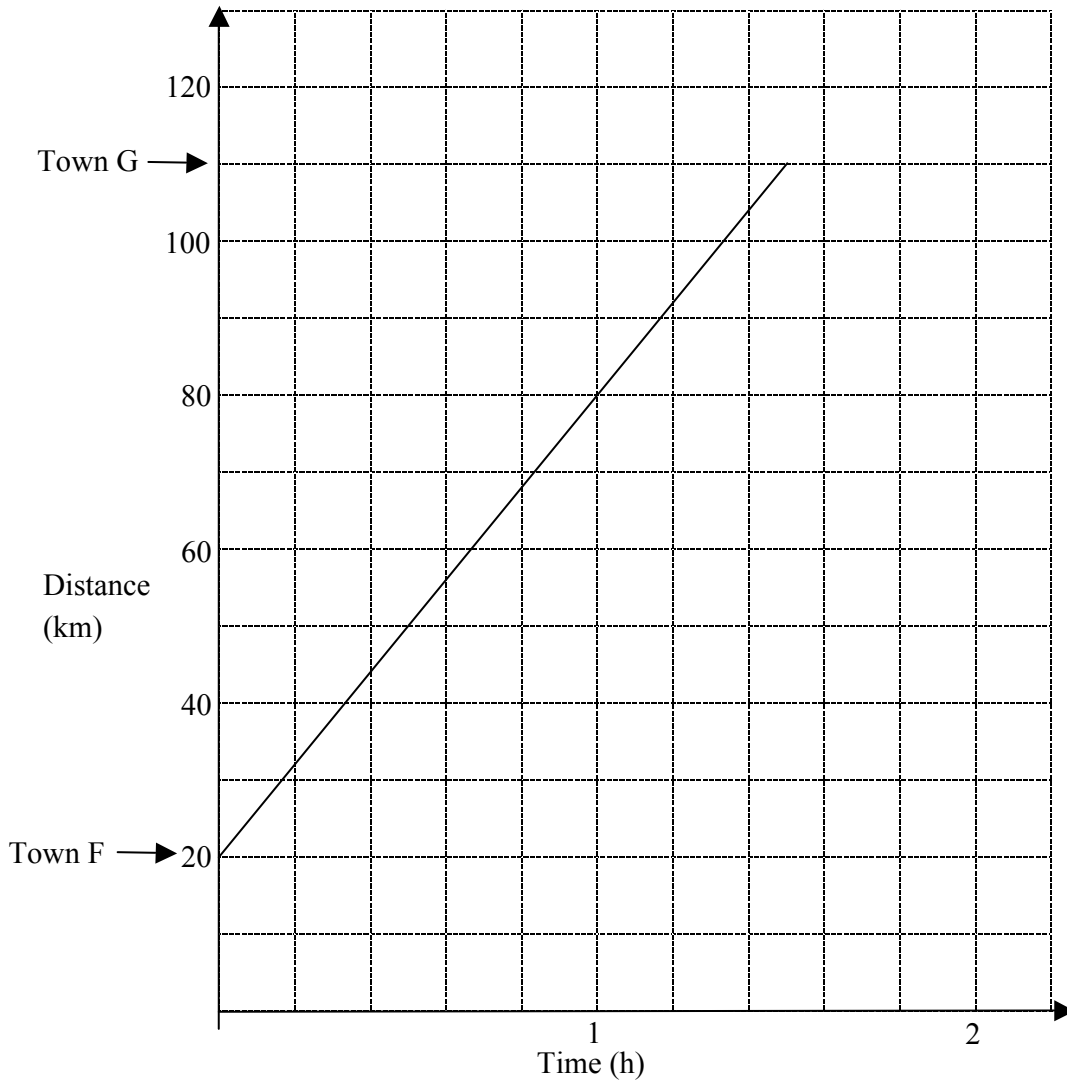
Answer (b)(i) [1]

(ii) 16 or 17 years old.

Answer (b)(ii) [1]

19 A bus travels from town *F* to town *G*.

The diagram shows the journey of the bus.



Calculate the average speed of the bus.

Answer km/h [3]

