

--	--	--	--	--

--	--	--	--

0580/11

May/June 2010

1 hour

Additional Materials: Electronic Calculator
Geometrical Instruments

Mathematical tables (optional)
Tracing paper (optional)

WWW.XTREMEPAPERS.NET

- 1 A ferry to Crete leaves at 07 30.
The journey takes 2 hours and 48 minutes.
Work out the time when the ferry arrives in Crete.

Answer [1]

- 2 (a) Write the following in order, starting with the smallest.

$$0.43 \quad \frac{4}{9} \quad 41\%$$

Answer(a) < < [1]

- (b) Only **one** of the following statements is correct.

$$\sin 30^\circ \neq 0.5$$

$$4^2 > 16$$

$$0.3 < \frac{1}{3}$$

Put a ring around the **correct** statement.

[1]

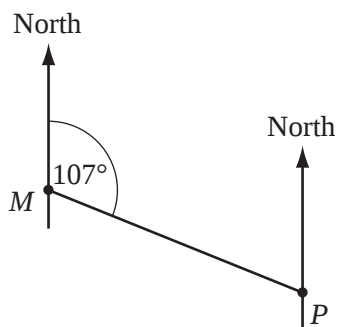
- 3 In a group of 35 students, 14 go to school by bus.
Write down the probability that a student, chosen at random, does **not** go to school by bus.
Give your answer as a fraction in its lowest terms.

Answer [2]

- 4 Write down the equation of the line, parallel to $y = 4x + 1$, which passes through the point $(0, -3)$.

Answer [2]

5

For
Examiner's
UseNOT TO
SCALE

The bearing of P from M is 107° .
Work out the bearing of M from P .

Answer [2]

- 6 Martin recorded the outside temperature every three hours.
At 07 00 the temperature was -2°C .

- (a) This was 5°C higher than the temperature at 04 00.
Write down the temperature at 04 00.

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

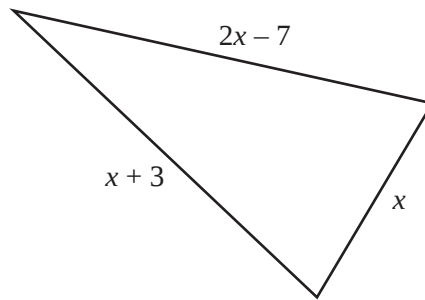
- (b) At 10 00 the temperature was 11°C .
Write down the increase in temperature between 07 00 and 10 00.

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

- 7 In a sale, the price of a car was reduced from \$ 17 000 to \$ 15 300.
Calculate the reduction as a percentage of the original price.

Answer % [2]

8

NOT TO
SCALE

The lengths, in centimetres, of the sides of a triangle are x , $x + 3$ and $2x - 7$.
The perimeter of the triangle is 52 cm.

- (a) Use this information to write down an equation in x .

Answer(a) [1]

- (b) Find the value of x .

Answer(b) $x =$ [2]

- 9 The area of a circle is 19.7 cm^2 .
Calculate the radius of the circle.

Answer cm [3]

- 10 Simplify

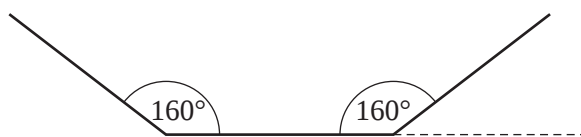
(a) $p^3 \times p^4$,

Answer(a) [1]

(b) $12q^8 \div 3q^2$.

Answer(b) [2]

11

NOT TO
SCALE

The diagram shows part of a regular polygon.
Each interior angle of the polygon is 160° .
Calculate the number of sides of the polygon.

Answer [3]

12 Write down the value of

(a) 10^{-2} ,

Answer(a) [1]

(b) 4^0 ,

Answer(b) [1]

(c) $\sqrt[3]{343}$.

Answer(c) [1]

13 Solve the simultaneous equations.

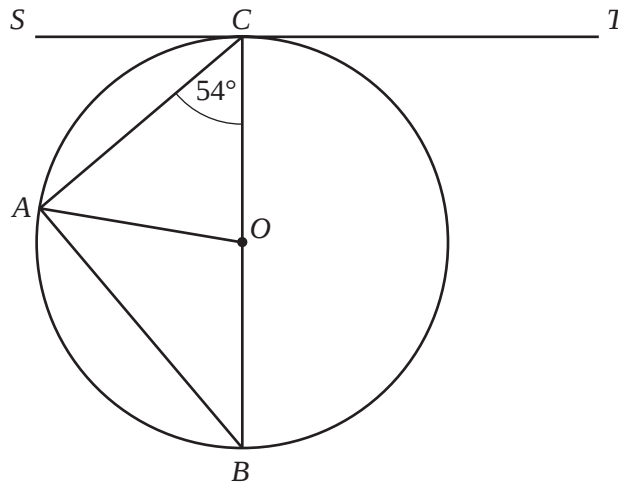
$$2x - y = 9$$

$$7x + 2y = 26$$

Answer $x =$

$y =$ [3]

14

NOT TO
SCALE

A, B and C lie on a circle, centre O . BC is a diameter and SCT is a tangent at C . Angle $ACB = 54^\circ$.

Find

(a) angle BCT ,Answer(a) Angle $BCT =$ [1](b) angle COA ,Answer(b) Angle $COA =$ [1](c) angle CAB ,Answer(c) Angle $CAB =$ [1](d) angle ABC .Answer(d) Angle $ABC =$ [1]

15

$$\mathbf{d} = \begin{pmatrix} 3 \\ -5 \end{pmatrix}$$

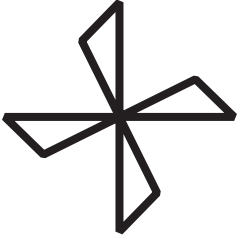
$$\mathbf{e} = \begin{pmatrix} -1 \\ 4 \end{pmatrix}$$

$$\mathbf{f} = \begin{pmatrix} 0 \\ 7 \end{pmatrix}$$

Calculate

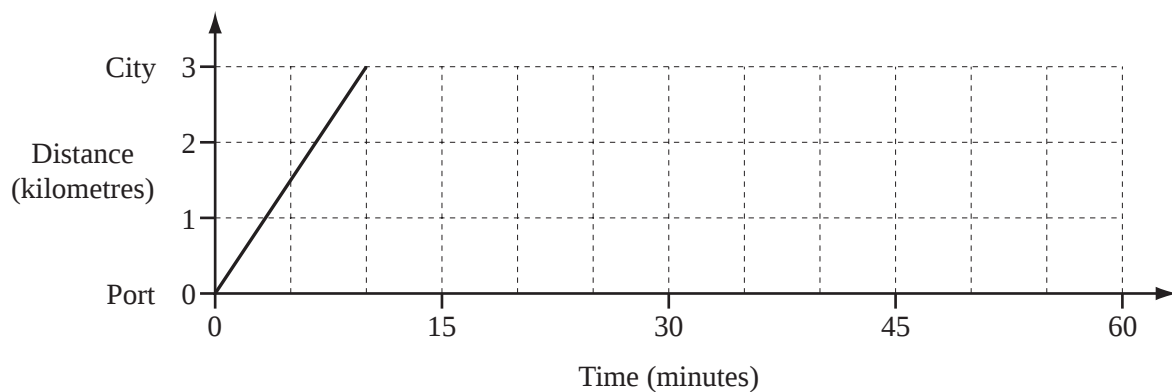
(a) $\mathbf{d} - \mathbf{e}$,Answer(a) $\begin{pmatrix} \\ \end{pmatrix}$ [2](b) $4\mathbf{f}$.Answer(b) $\begin{pmatrix} \\ \end{pmatrix}$ [2]For
Examiner's
Use

16 Complete the information about each shape.

Shape		
Number of lines of symmetry		
Order of rotational symmetry		

[4]

17



- (a) The travel graph shows the journey of a bus from a port to a city.
Calculate the average speed of the bus

(i) in kilometres per minute,

Answer(a)(i) km/min [1]

(ii) in kilometres per hour.

Answer(a)(ii) km/h [1]

- (b) The bus waits in the city for 20 minutes and then returns to the port at an average speed of 12 km/h.

Complete the travel graph.

[2]

Questions 18 and 19 are printed on the next page.

- 18 (a) Factorise $3y^2 - 7xy$.

Answer(a) [1]

- (b) Expand the brackets and simplify completely.

$$p(4p + 5r) + 2r(6p + r)$$

Answer(b) [3]

- 19 Erica is tiling the floor of a rectangular room of length 3 metres and width 2.5 metres. She uses square tiles of side 25 centimetres.

- (a) Calculate

- (i) how many tiles will fit along the length of the room,

Answer(a)(i) [1]

- (ii) how many tiles she will need altogether.

Answer(a)(ii) [2]

- (b) Work out the area of **one tile**

- (i) in square centimetres,

Answer(b)(i) cm^2 [1]

- (ii) in square metres.

Answer(b)(ii) m^2 [1]

Permission to reproduce items where third-party owned material protected by copyright is included has been sought and cleared where possible. Every reasonable effort has been made by the publisher (UCLES) to trace copyright holders, but if any items requiring clearance have unwittingly been included, the publisher will be pleased to make amends at the earliest possible opportunity.

University of Cambridge International Examinations is part of the Cambridge Assessment Group. Cambridge Assessment is the brand name of University of Cambridge Local Examinations Syndicate (UCLES), which is itself a department of the University of Cambridge.