S5 Space exam review

1

North ↑

B

A

a By measurement, find the bearing of *B* from *A*.

.....................°

(2)

b The bearing of another point, *C*, from *A* is 226°.
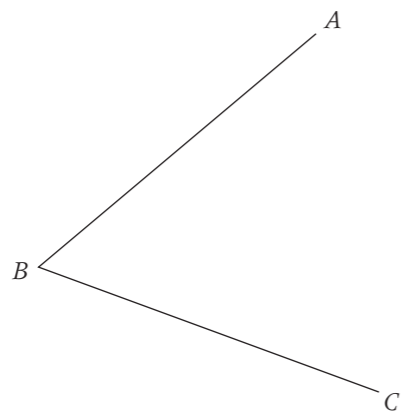**Work out** the bearing of *A* from *C*.

.....................°

(2)

(Total 4 marks)

2 Use ruler and compasses to **construct** an angle of 45° at *A*.
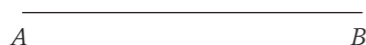You must show **all** construction lines.

A _____

(Total 3 marks)

3

A

B

C

Use ruler and compasses to **construct** the bisector of angle *ABC*.
You must show all construction lines.

(Total 2 marks)

4

A ———————————— *B*

Use ruler and compass to **construct** the perpendicular bisector of
the line segment *AB*.
You must show all construction lines.
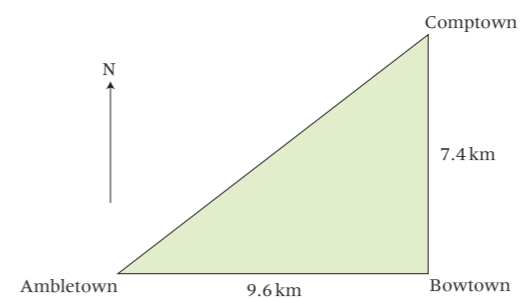
(Total 2 marks)

5 The diagram represents a triangular garden *ABC*.
The scale of the diagram is 1 cm represents 1 m.
A tree is to be planted in the garden so that it is

   nearer to *AB* than to *AC*,
   within 5 m of point *A*.

On the diagram, shade the region where the tree may be planted.

B

A

C

(Total 3 marks)

6

Comptown

N

7.4 km

Diagram **NOT**
accurately drawn
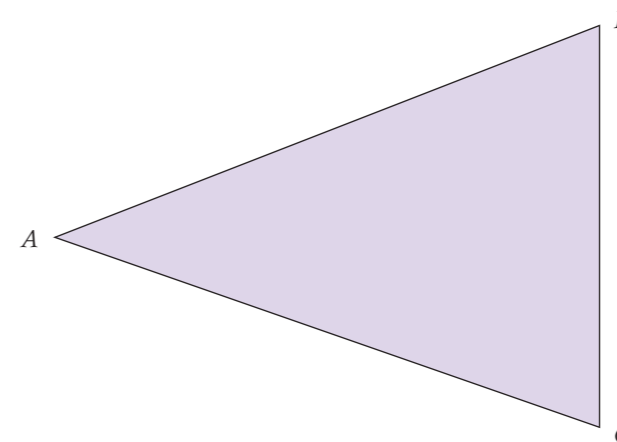
Ambletown   9.6 km   Bowtown

Ambletown, Bowtown and Comptown are three towns.
Ambletown is 9.6 km due west of Bowtown.
Bowtown is 7.4 km due south of Comptown.

Calculate the bearing of Ambletown from Comptown.
Give your answer correct to one decimal place.
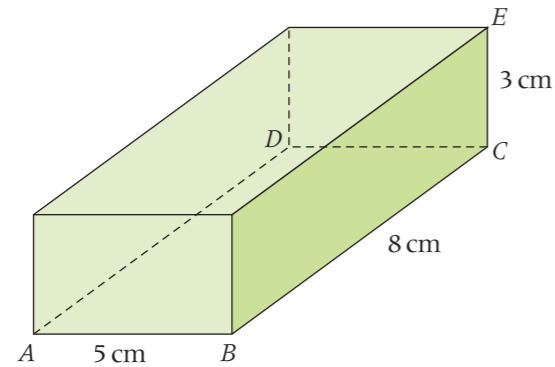
..................°

(Total 4 marks)

7

3 cm

Diagram **NOT**
accurately drawn

8 cm

5 cm

The diagram shows a cuboid.
A, B, C, D and *E* are five vertices of the cuboid.
AB = 5 cm.
BC = 8 cm.
CE = 3 cm.
Calculate the size of the angle the diagonal *AE* makes with the plane *ABCD*.
Give your answer correct to 1 decimal place.

...................°

(Total 6 marks)

8 The diagram shows a pyramid. The apex of the pyramid is *V*.
Each of the sloping edges is of length 6 cm.

Diagram **NOT**
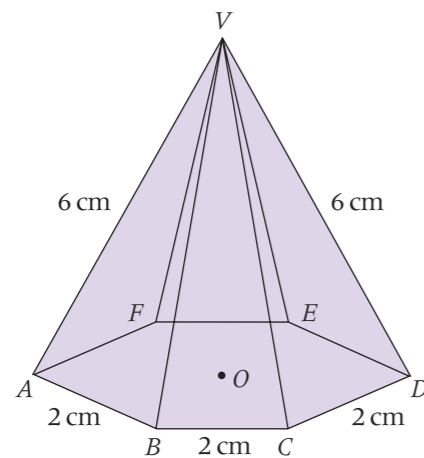accurately drawn

6 cm   6 cm

2 cm   2 cm

2 cm

The base of the pyramid is a regular hexagon with sides of
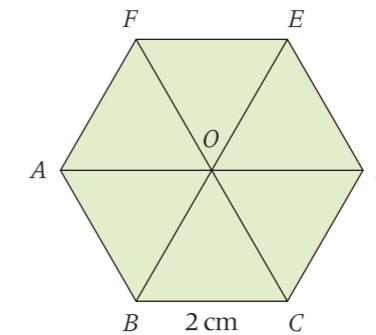length 2 cm.

O is the centre of the base.

Diagram **NOT**
accurately drawn

2 cm

a Calculate the height of *V* above the base of the pyramid.
Give your answer correct to 3 significant figures.

...................cm (2)

b Calculate the size of angle *DVA*.
Give your answer correct to 3 significant figures.

...................° (3)

c Calculate the size of angle *AVC*.
Give your answer correct to 3 significant figures.

...................° (4)

(Total 9 marks)

9 a A farmer arranges 90 m of fencing in the
form of an isosceles triangle, with two sides
of length 35 m and one side of length 20 m.

Calculate the area enclosed by the fencing.
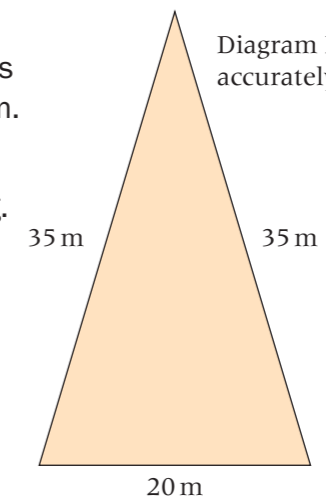Give your answer correct to 3 significant
figures.

Diagram **NOT**
accurately drawn

35 m   35 m

20 m

.... m²

(4)

b Later, the farmer moves the fencing so that it forms a different triangle, *ABC*.

A

20 m   30 m

B   40 m   C
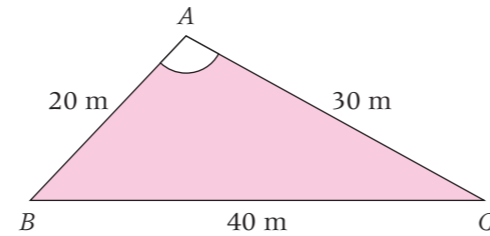
Diagram **NOT** accurately drawn

AB = 20 m   *BC* = 40 m   *CA* = 30 m

Calculate the size of angle *BAC*.
Give your answer correct to 1 decimal place.

....................°

(3)

(Total 7 marks)

10

A

8.1 cm   7.5 cm

30°

B   C
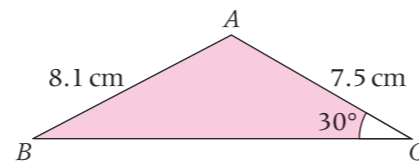
In triangle *ABC*,

   AB = 8.1 cm,
   AC = 7.5 cm,
   angle *ACB* = 30°.

Calculate the size of angle *ABC*.
Give your answer correct to 3 significant figures.

....................°

(Total 3 marks)