




COUNTDOWN TO YOUR FINAL MATHS EXAM ...

PART 9 (2018)



	Marks	Actual	  
Q1. Bearings (Clip 44)	2		
Q2. Interior angles & trigonometry (Clip 47 and 51 to 43) **TOUGH	4		
Q3. Trigonometry (Clips 41 to 43)	4		
Q4. Bearings (Clip 44)	5		
Q5. Angle facts (Clip 46)	2		
Q6. Angle facts (Clip 46)	4		
Q7. Bearings (Clip 44)	6		
Q8. Distance	2		
Q9. Angle facts (Clip 46)	5		
Q10. Angle facts (Clip 46)	4		
Q11. Pythagoras with trig (Clip 45)	4		
Q12. Interior angles (Clip 47)	4		
Q13. Trigonometry (Clips 41 to 43)	4		
Q14. Interior angles (Clip 47)	4		
Q15. Pythagoras & Trig (Clips 39 to 43)	6		

60

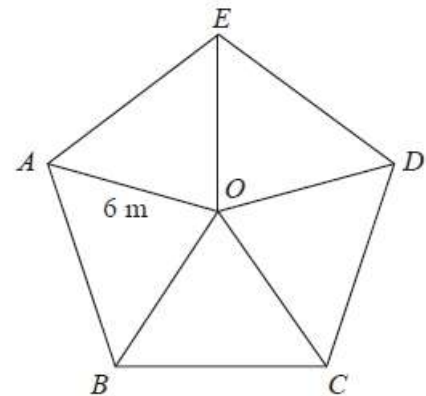
Questions

- Q1.** The bearing of a ship from a lighthouse is 050°
 Work out the bearing of the lighthouse from the ship.



(2)

- Q2.** The diagram shows a regular pentagon $ABCDE$.



The pentagon is divided into 5 isosceles triangles.
 $OA = OB = OC = OD = OE = 6$ m

Work out the area of the pentagon.
 Give your answer correct to 1 decimal place.

(4)

- Q3.**

B , C and D are points on the circumference of a circle, centre O .
 BOD is a diameter of the circle.

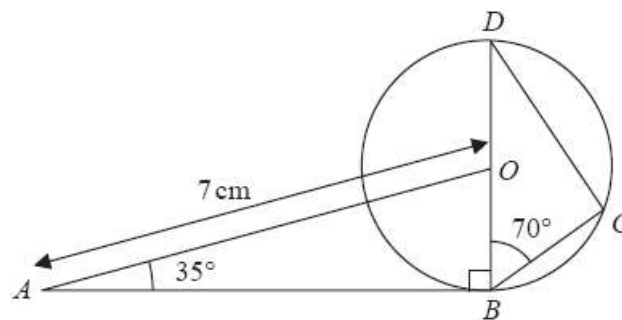


Diagram NOT accurately drawn

$$AO = 7 \text{ cm} \quad \text{Angle } ABO = 90^\circ \quad \text{Angle } OAB = 35^\circ \quad \text{Angle } DBC = 70^\circ$$

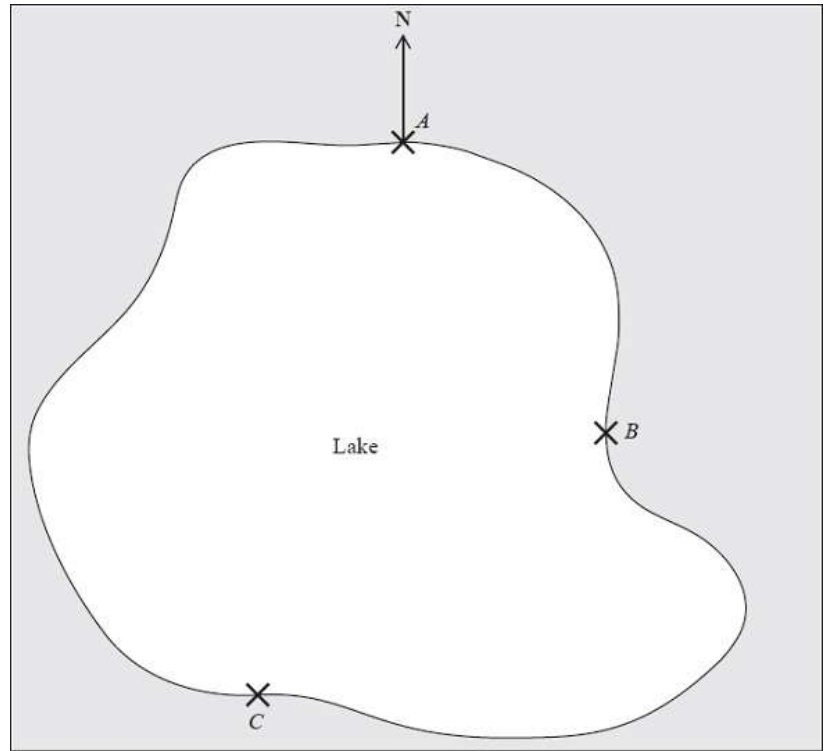
- (a) Explain why angle BCD is 90°

(1)

- (b) Calculate the length of BC .
 Give your answer correct to 3 significant figures.

(4)

Q4. The map shows the positions of three places A , B and C on the edge of a lake.



Scale 1 cm represents 2 km

(a) Find the bearing of B from A .

(1)

A ferry travels in a straight line from A to B .

It then travels in a straight line from B to C .

A speedboat travels in a straight line from A to C .

(b) How many more kilometres does the ferry travel than the speedboat? You must show your working.

(4)

Q5.

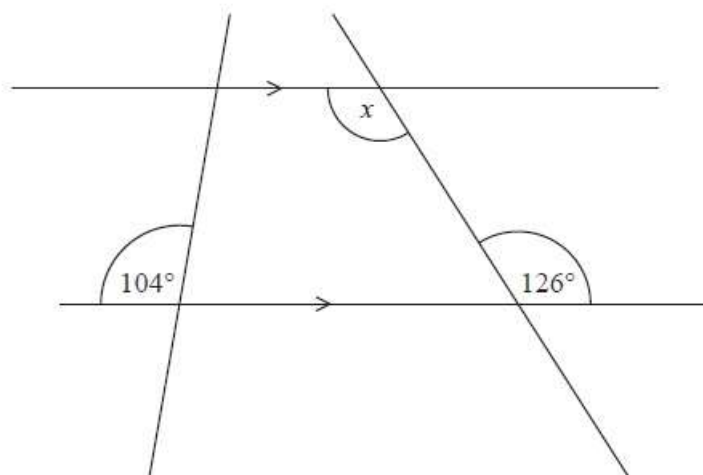


Diagram NOT accurately drawn

(i) Find the size of the angle marked x .

(ii) Give a reason for your answer.

(2)

Q6.

Triangle ABC is a right-angled triangle.
 ADB is a straight line.

$$DA = DC$$

$$\text{Angle } BCD = 20^\circ$$

Work out the size of the angle marked x .
You must give reasons for each stage of your working.

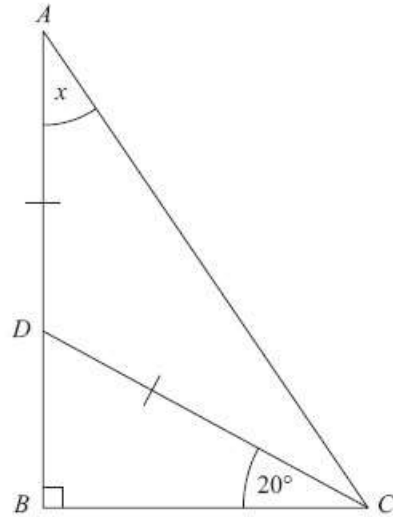


Diagram **NOT**
accurately drawn

(4)

Q7. Manchester airport is on a bearing of 330° from a London airport.

(a) Find the bearing of the London airport from Manchester airport.

(2)

The London airport is 200 miles from Manchester airport.

A plane leaves Manchester airport at 10 am to fly to the London airport.
The plane flies at an average speed of 120 mph.

(b) What time does the plane arrive at the London airport?



(4)

Q8. The diagram shows the distances, in kilometres, between some towns, by road.

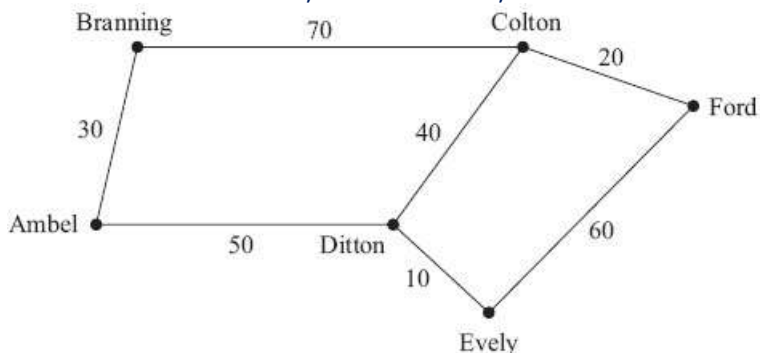


Diagram **NOT**
accurately drawn

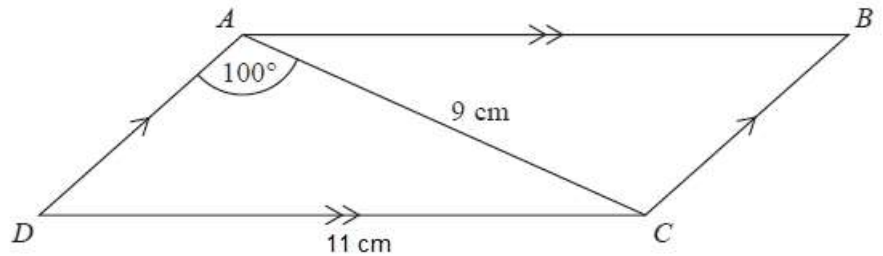


Work out the shortest distance between Ambel and Ford by road.

(2)

Q9. $ABCD$ is a parallelogram.

Diagram **NOT** accurately drawn



$AC = 9$ cm
 $DC = 11$ cm
Angle $DAC = 100^\circ$

Calculate the area of the parallelogram.
Give your answer correct to 3 significant figures.

Q10.

ABC is a straight line.
 $AB = BD$
Angle $BAD = 25^\circ$
Angle $BCD = 70^\circ$

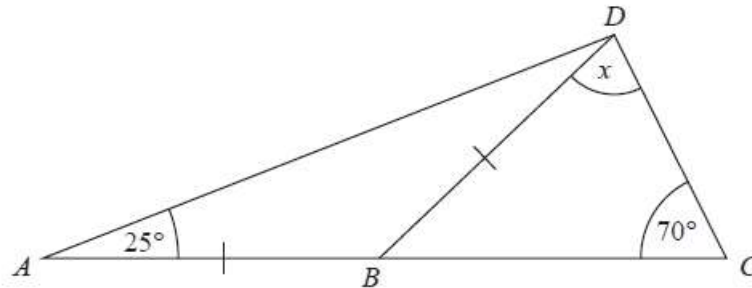


Diagram **NOT** accurately drawn

Work out the size of the angle marked x .
Give reasons for your answer.

Q11.

ABC is a right-angled triangle.
 D is a point on AB .

Angle $ACD = 30^\circ$
 $AD = 10.4$ cm
 $DB = 5.2$ cm
 $AC = 18$ cm

Work out the size of the angle marked x .
Give your answer correct to 1 decimal place.

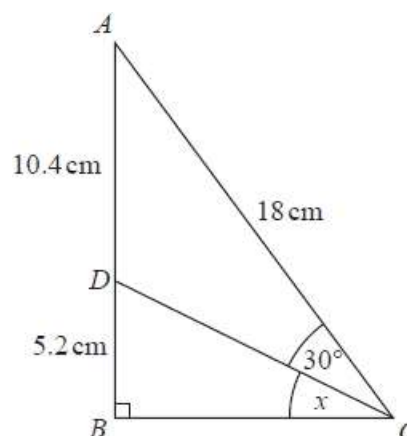


Diagram **NOT** accurately drawn

(5)

(4)

(4)

Q12.

$ABCDE$ and $AFGCH$ are regular pentagons.
The two pentagons are the same size.

Work out the size of angle EAH .
You must show how you got your answer.

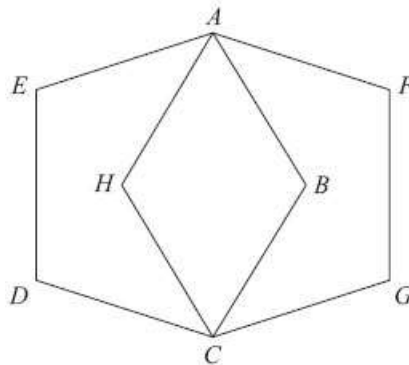


Diagram NOT
accurately drawn

(4)

Q13.

$ABCD$ is a parallelogram.

$DC = 5$ cm
Angle $ADB = 36^\circ$

Calculate the length of AD .
Give your answer correct to 3 significant
figures.

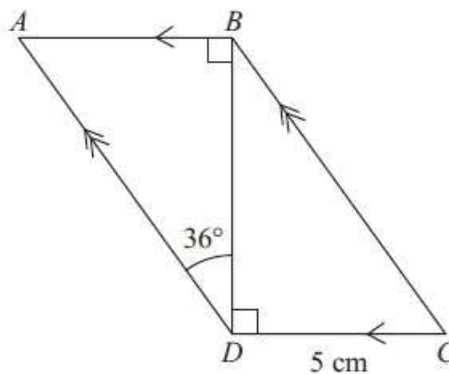


Diagram NOT
accurately drawn

(4)

Q14.

The diagram shows two regular polygons.

Find the size of the angle marked x .
Give reasons for your answer.

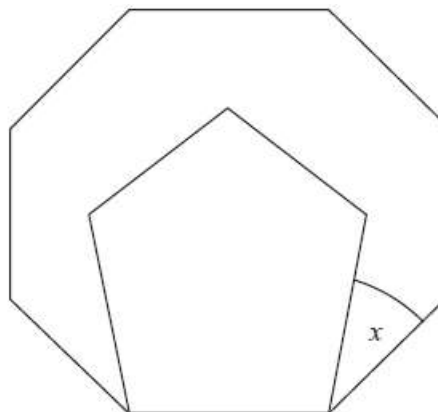


Diagram NOT
accurately drawn

(4)

Q15.

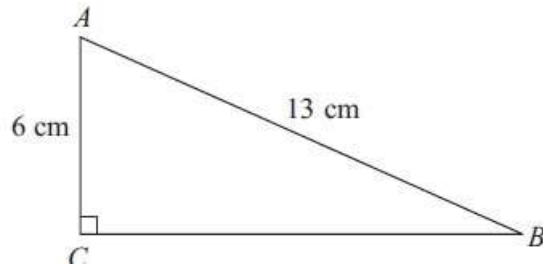


Diagram **NOT** accurately drawn

ABC is a right-angled triangle.

$AC = 6$ cm

$AB = 13$ cm

- (a) Work out the length of BC .
Give your answer correct to 3 significant figures.

(3)

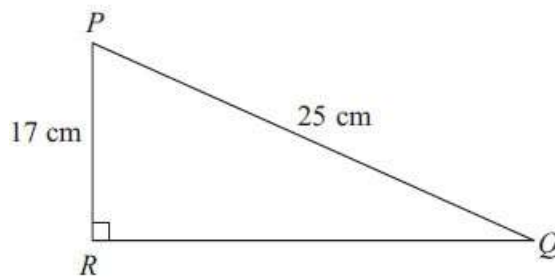


Diagram **NOT** accurately drawn

PQR is a right-angled triangle.

$PR = 17$ cm

$PQ = 25$ cm

- (b) Work out the size of angle RPQ .
Give your answer correct to 1 decimal place.

(3)