Corbett maths

Examples

Workout

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Question 1:   Find x for each of the triangles below.

(a)

8cm
60°
10cm
x

(b)

20cm
120°
15cm
x

(c)

42mm
56°
35mm
x

(d)

x
17cm
70°
17cm

(e)

6.1cm
148°
5.5cm
x

(f)

x
6cm
19°
7cm
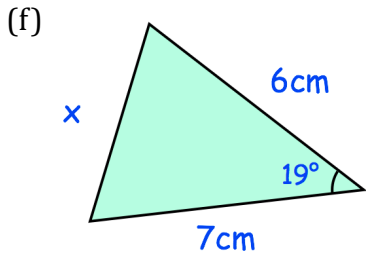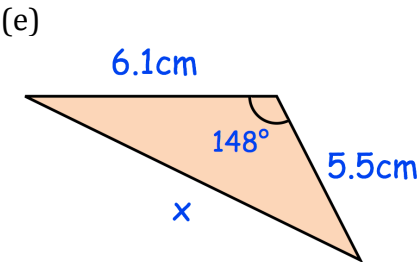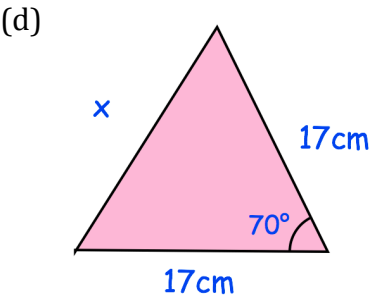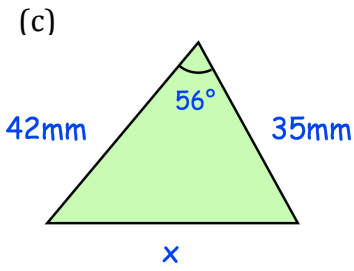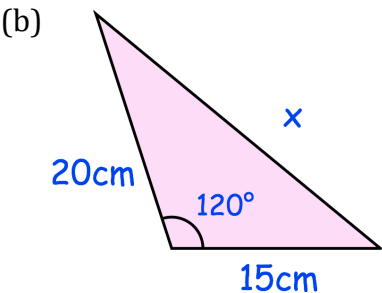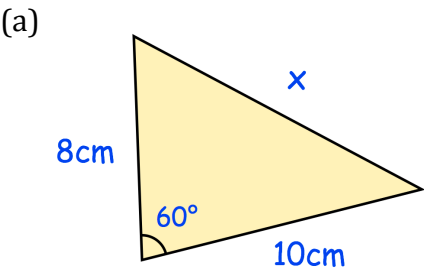
Question 2:   Find the size of θ for each of these triangles.

(a)

8cm
θ
9cm
10cm

(b)

8m
θ
5m
7m

(c)

22cm
29cm
θ
20cm

(d)

14.3cm
7.5cm
θ
8.1cm

(e)

4.9cm
7.4cm
θ
7.4cm

(f)
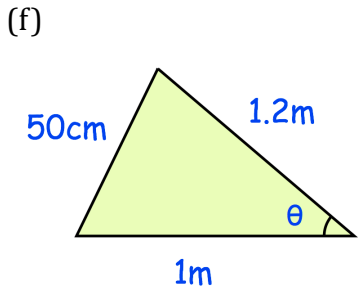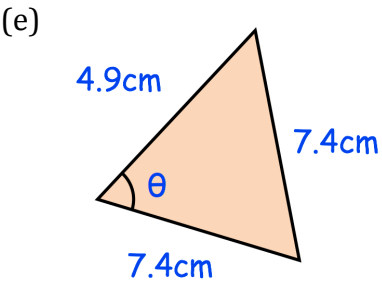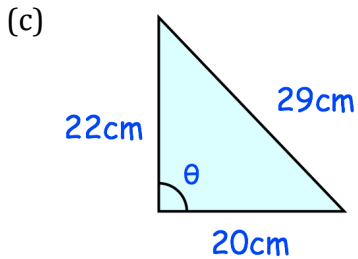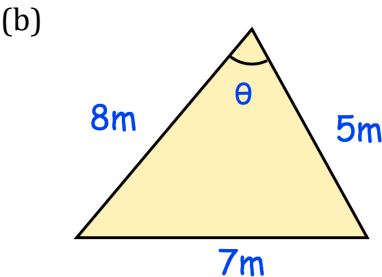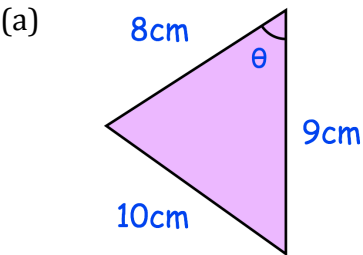
50cm
1.2m
θ
1m

Question 3:   In triangle ABC, the side AB = 6cm, the side BC = 8cm and angle ABC = 100°
               Find the length of side AC.
               Give your answer to 1 decimal place.
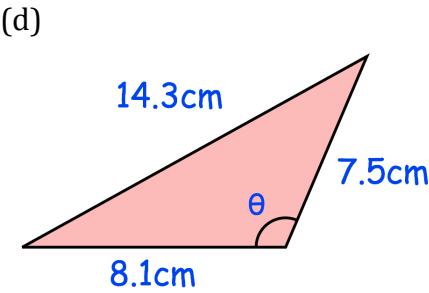
Question 4:   In triangle DEF, the side DE = 30cm, the side DF = 40cm and the side EF = 45cm.
               Find the size of angle DFE.
               Give your answer to 3 significant figures.

Question 5:   In triangle GHI, the side GH = 3cm, the side HI = 18cm and the side GI = 20.5cm.
               Find the size of angle HGI.
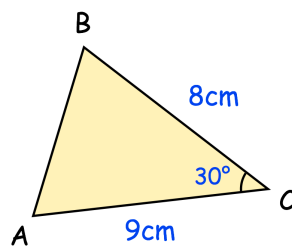   Give your answer to 3 significant figures.
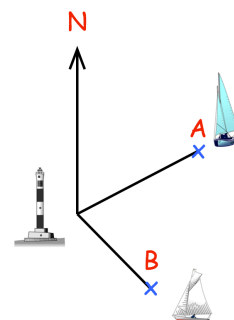
Apply

Question 1:   Calculate the perimeter of triangle ABC
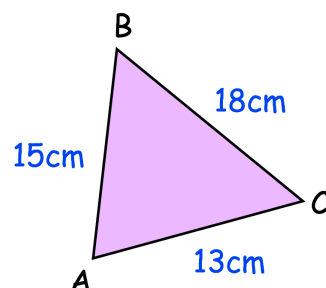

Question 2:   Boat A is 16km from a lighthouse on a bearing of 055°
               Boat B is 11km from the same lighthouse on a bearing of 152°

               Calculate the distance between the two boats.

Question 3:   Find the size of the smallest angle in this triangle.
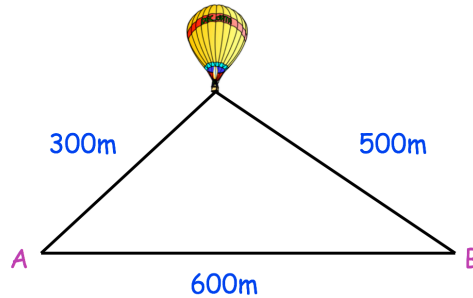
Question 4:   A hot air balloon is flying above two point, standing on the ground at points A
             and B, 600m apart.

             The hot air balloon is 300m from A and 500m from B.

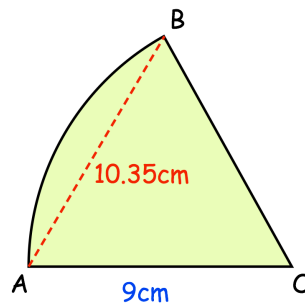   (a) Work out the angle of elevation from point B

             (b) How high is the hot air balloon from the ground?
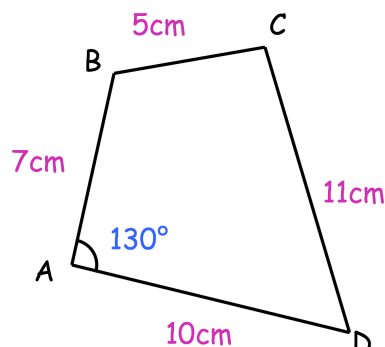
Question 5:   Shown is sector OAB.
             O is the centre of the circle with radius 9cm
             A and B are points on the circle.
             The length of the chord AB is 10.35cm

             Find the area of sector OAB

Question 6:   ABCD is a quadrilateral.
             AB = 7cm   BC = 5cm   BC = 11cm   AD = 10cm   Angle BAD = 130°
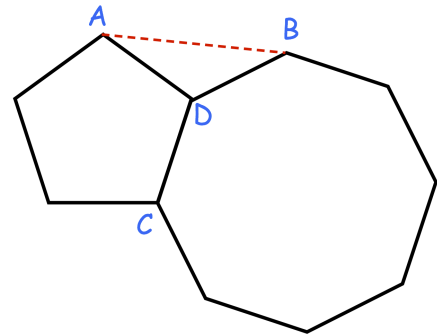
             Work out the size of angle BCD.

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Question 7:   A is a vertex of a regular pentagon.
B is a vertex of a regular octagon.
C and D are vertices of both polygons.

The perimeter of the octagon is 40cm.

Work out the length AB

Question 8:   A clock has two hands.
A minute hand which is 5.5cm long and an hour hand which is 4cm long.

Find the distance between the tips of the two hands at 7:15am

Question 9:   Two ships, A and B, leave a port at 10:30

Ship A travels on a bearing of 196° at a speed of 30km/h.
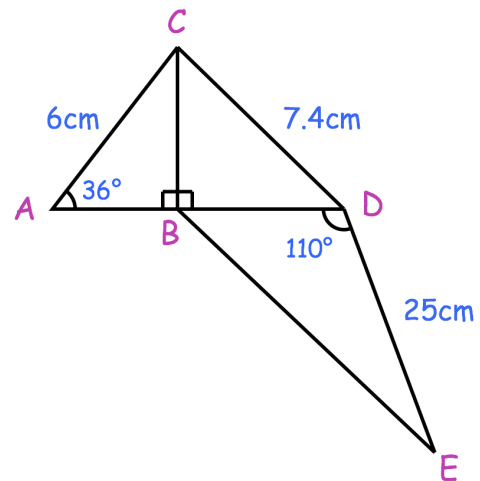Ship B travels on a bearing of 244° at a speed of 24km/h.

(a) Work out the distance between A and B at 14:00

(b) Work out the bearing of B from A at 14:00

Question 10: In the diagram:

ABD is a straight line.
AC = 6cm   CD = 7.4cm   DE = 25cm
Angle BAC = 36°   Angle BDE = 110°

Calculate the length of BE

Question 11: The Cosine Rule is $a^2 = b^2 + c^2 - 2bcCosA$

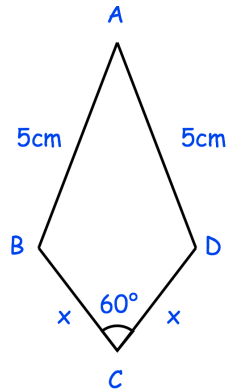Make CosA the subject.

Question 12: Shown is kite ABCD

Prove $CosBAD = 1 - \dfrac{x^2}{50}$

Answers

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