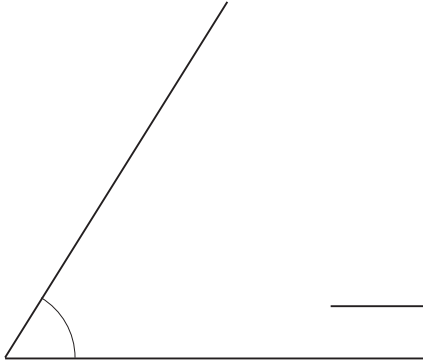


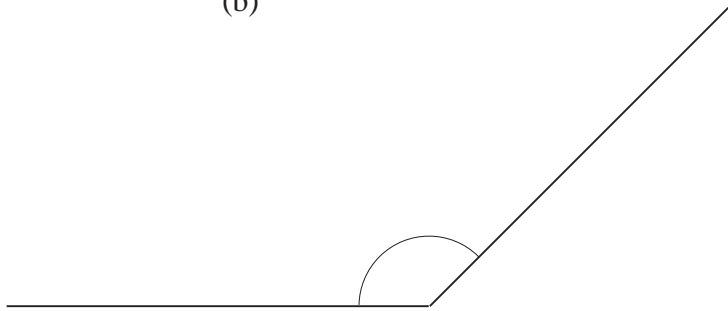
UNIT 11 *Angles, Bearings and Maps* Extra Exercises 11.1

1. Measure each of the following angles and state whether it is *acute*, *obtuse* or *reflex*.

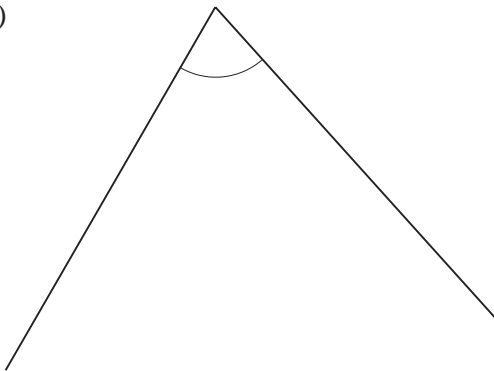
(a)



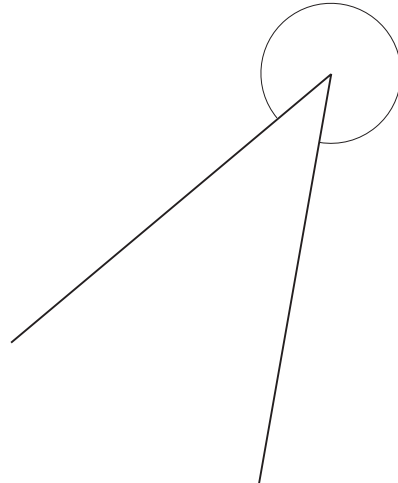
(b)



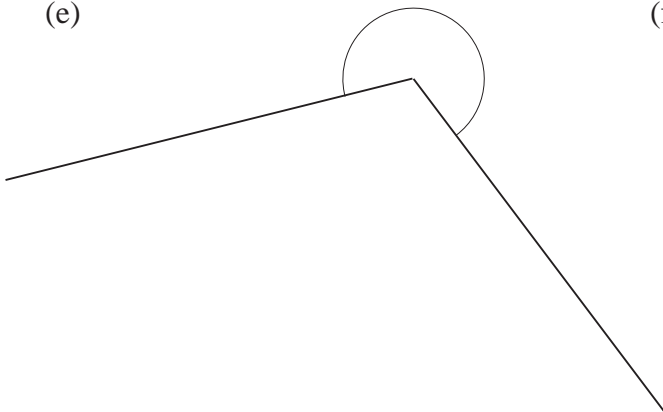
(c)



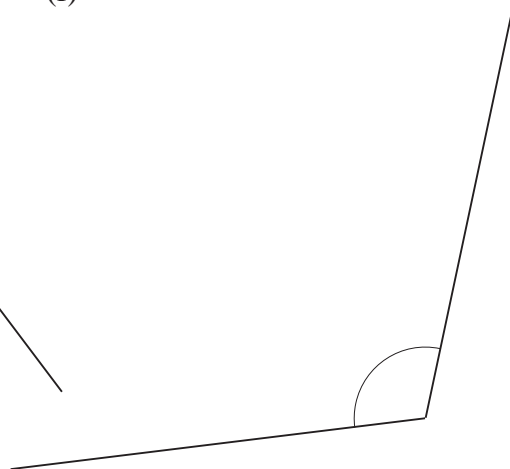
(d)



(e)



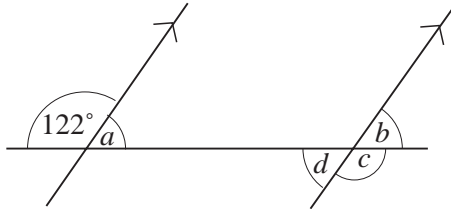
(f)



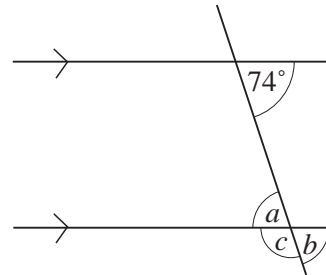
UNIT 11 *Angles, Bearings and Maps* Extra Exercises 11.2

1. Calculate the size of each of the unknown angles marked on the following diagrams:

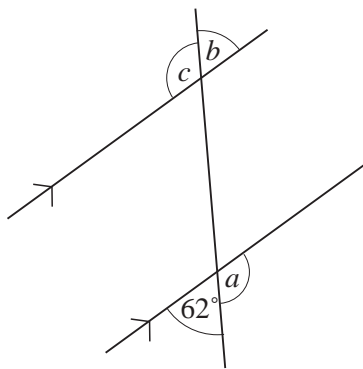
(a)



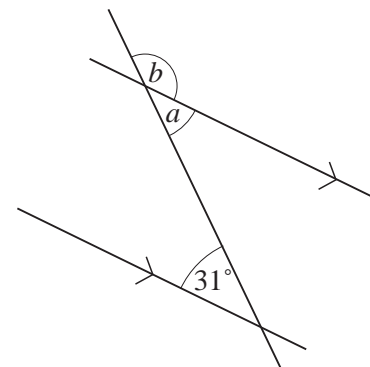
(b)



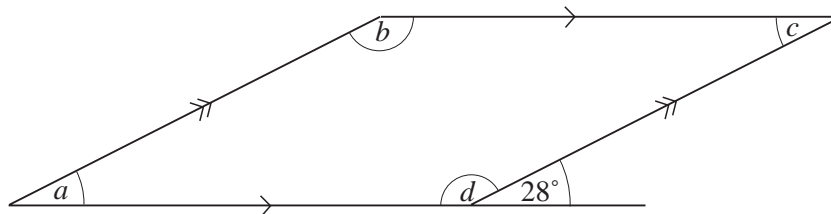
(c)



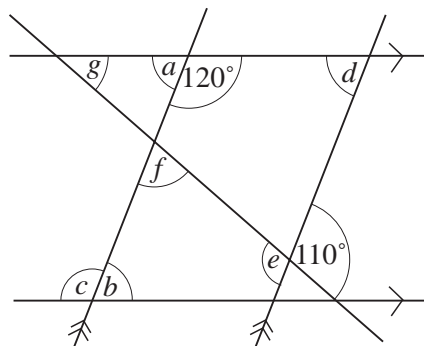
(d)



2. Calculate the sizes of the angles inside the following parallelogram:



3. Calculate the sizes of the unknown angles marked on the following diagram:

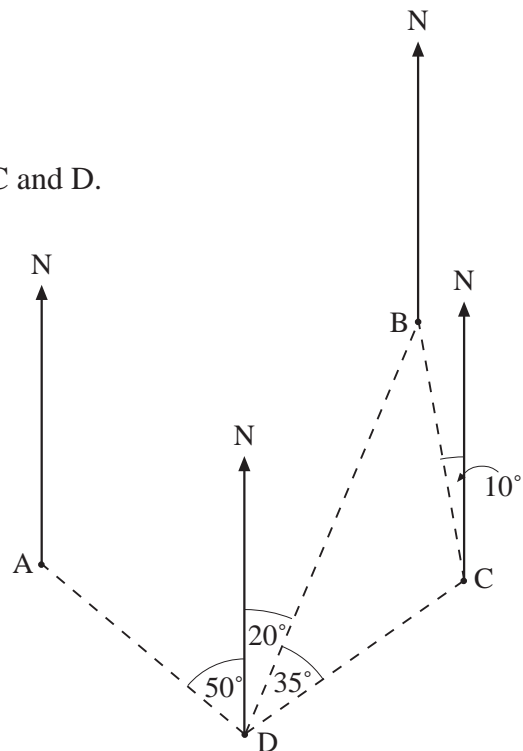


UNIT 11 *Angles, Bearings and Maps* Extra Exercises 11.3

- What angle do you turn through if you turn anticlockwise from:
 - S to W,
 - SE to E,
 - SW to N,
 - NE to SW,
 - N to SE,
 - SE to NE?

- The diagram opposite shows the points A, B, C and D.
What is the bearing of:

- B from D,
- C from D,
- D from A,
- A from D,
- D from C?



- Eleanor flies her plane from Jersey to Plymouth on a bearing of 314° . On what bearing should she fly back to Jersey?
- Brian sails out from his home port on a bearing of 212° . On what bearing should he sail to return to his home port?

UNIT 11 *Angles, Bearings and Maps* Extra Exercises 11.4

1. James walks 200 m north and then 350 m SW.
 - (a) How far is he from his starting position?
 - (b) On what bearing should he walk to get back to his starting position?

2. A ship sails 1000 km on a bearing of 060° and then 300 km on a bearing of 260° . How far is the ship from its starting position?

3. Jamil walks 800 m NE. He wants to get to a point 1000 m due N of his starting point. How far does he now have to walk, and on what bearing?

4. An aeroplane flies 200 km on a bearing of 280° and then 150 km on a bearing of 200° . It then flies back to its starting point. Calculate the total distance travelled by the aeroplane.

Extra Exercises 11.1 Answers

1. (a) 58° ; acute (b) 135° ; obtuse (c) 72° ; acute
(d) 320° ; reflex (e) 247° ; reflex (f) 109° ; obtuse

Extra Exercises 11.2 Answers

1. (a) $a = 58^\circ$, $b = 58^\circ$, $c = 122^\circ$, $d = 58^\circ$
(b) $a = 74^\circ$, $b = 74^\circ$, $c = 106^\circ$
(c) $a = 118^\circ$, $b = 62^\circ$, $c = 118^\circ$
(d) $a = 31^\circ$, $b = 149^\circ$
2. $a = c = 28^\circ$, $b = d = 152^\circ$
3. $a = 60^\circ$, $b = 60^\circ$, $c = 120^\circ$, $d = 60^\circ$, $e = 110^\circ$, $f = 70^\circ$, $g = 50^\circ$

Extra Exercises 11.3 Answers

1. (a) 270° (b) 45° (c) 225°
(d) 180° (e) 225° (f) 90°
2. (a) 020° (b) 055° (c) 130° (d) 310° (e) 235°
3. 134°
4. 032°

Extra Exercises 11.4 Answers

1. (a) 252 m (b) 079°
2. 725 km
3. 713 m, 308°
4. 620 km