

GCSE Maths: Angles on a line, around a point and vertically opposite (Foundation): worksheet

GCSE Maths - Angles, Polygons and Symmetry - Foundation - Lesson 17.2

Name: _____

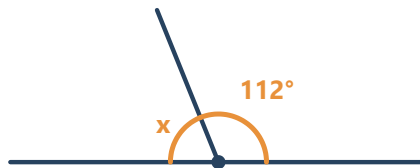
Date: _____

Score: _____

18 questions. Write your answers in the spaces. Answers and step-by-step help are free at websink.site/gcse/maths/ch17-angles-polygons-symmetry/foundation/angles-on-a-line-around-a-point-and-vertically-opposite/

Exercise 17B Angles on a line, around a point and vertically opposite Non-calculator

- 1 The diagram shows angles on a straight line. Work out the value of x . Give a reason for your answer.



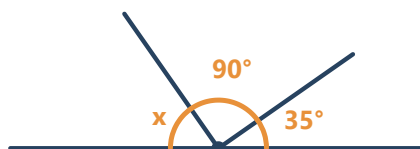
Answer: _____

- 2 The diagram shows angles on a straight line. Work out the value of x .



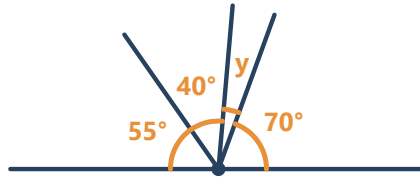
Answer: _____

- 3 The diagram shows angles on a straight line. Work out the value of x . Give a reason for your answer.



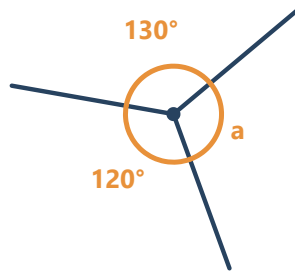
Answer: _____

- 4 The diagram shows angles on a straight line. Work out the value of y . Give a reason for your answer.



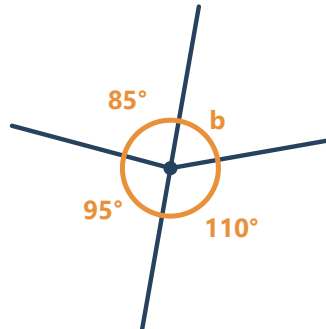
Answer:

- 5** The diagram shows angles around a point. Work out the value of a . Give a reason for your answer.



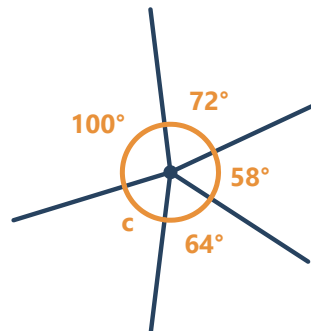
Answer:

- 6** The diagram shows angles around a point. Work out the value of b . Give a reason for your answer.



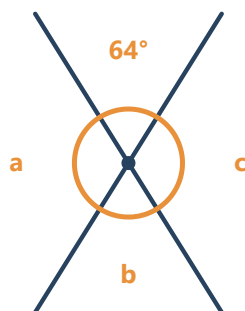
Answer:

- 7** The diagram shows angles around a point. Work out the value of c .



Answer:

- 8** Two straight lines cross. Work out the size of each angle marked with a letter. Give a reason for each answer.



(a) Work out angle a .

Answer:

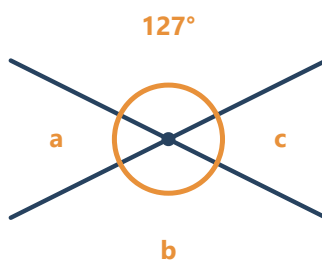
(b) Work out angle b .

Answer:

(c) Work out angle c .

Answer:

9 Two straight lines cross. Work out the size of each angle marked with a letter. Give a reason for each answer.



(a) Work out angle a .

Answer:

(b) Work out angle b .

Answer:

(c) Work out angle c .

Answer:

10 Fill in the gaps. (a) Angles on a straight line add up to ____°. (b) Angles around a point add up to ____°. (c) Vertically opposite angles are ____.

(a) Angles on a straight line add up to ____°.

Answer:

(b) Angles around a point add up to ____°.

Answer:

(c) Vertically opposite angles are ____.

Answer:

11 Two angles on a straight line are 107° and 83° . Karl says that the angles must be on a straight line. Is he correct? Give a reason.

Answer:

- 12** Work out the size of the angle between the hands of a clock at each time. (The 12 numbers are equally spaced round the clock face.)

(a) 3 o'clock

Answer:

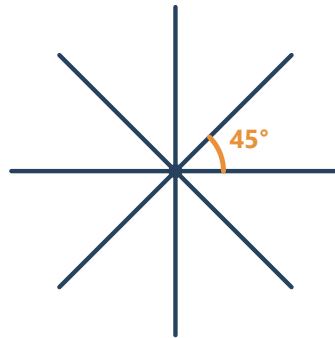
(b) 5 o'clock

Answer:

(c) 8 o'clock (the smaller angle)

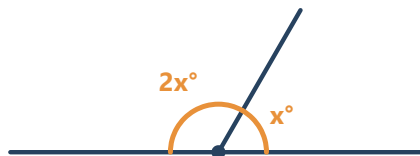
Answer:

- 13** A pizza is cut into 8 equal slices. Anna takes 3 slices. What angle is left at the centre of the pizza for the remaining slices?



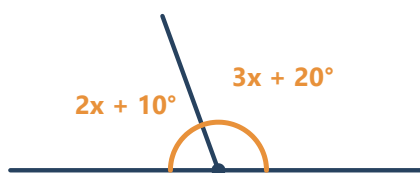
Answer:

- 14** The diagram shows angles on a straight line. Work out the size of each angle.



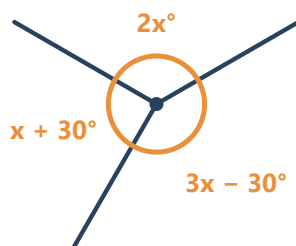
Answer:

- 15** The diagram shows angles on a straight line. Work out the value of x .



Answer:

- 16** The diagram shows angles around a point. Work out the value of x .



Answer:

- 17** Dan has worked out the angle on a straight line next to a 112° angle. He writes $360 - 112 = 248^\circ$. Explain his mistake and find the correct angle.

Answer:

- 18** Lines AB and CD cross at E. Angle AEC is three times angle AED. (a) Work out angle AED. (b) Write down the size of angle BEC. Give reasons.

(a) Work out angle AED.

Answer:

(b) Write down the size of angle BEC.

Answer: