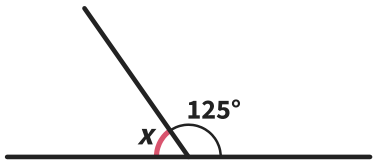
Angle facts and reasons

ANSWERS

1

Find the size of angle x. Give a reason.



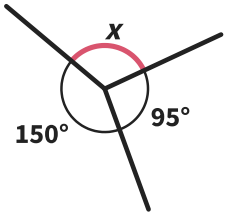
$x = 180° -$ 125° $=$ 55°

Reason: angles on a straight line add up to 180°

$x =$ 55°

2

Find the size of angle x. Give a reason.



straight line | around a point | vertically opposite | triangle | isosceles

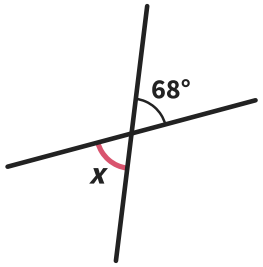
$x = 360° -$ 150° $-$ 95° $=$ 115°

Reason: angles around a point add up to 360°

$x =$ 115°

3

Find the size of angle x. Give a reason.



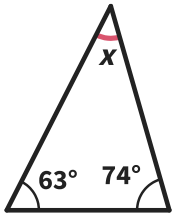
straight line | around a point | vertically opposite | triangle | isosceles

Reason: vertically opposite angles are equal

$x =$ 68°

4

Find the size of angle x. Give a reason.



straight line | around a point | vertically opposite | triangle | isosceles

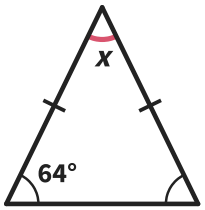
180° − 63° − 74° = 43°

Reason: angles in a triangle add up to 180°

$x =$ 43°

5

Find the size of angle x. Give a reason for each step.



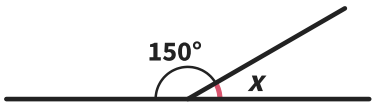
64° + 64° = 128°, 180° − 128° = 52°

Reasons: isosceles: base angles equal; triangle adds to 180°

$x =$ 52°

6

Kim says $x = 360° - 150° = 210°$.
Explain what Kim has done wrong, then find x.

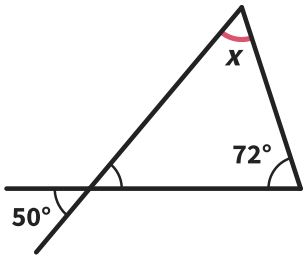


on a straight line, use 180° not 360°

$x =$ 30°

7

Find the size of angle x. Give a reason for each step.



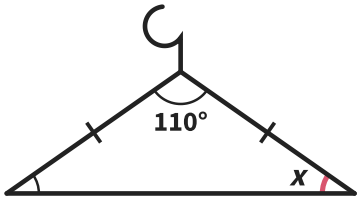
angle inside at the left = 50° (vertically opposite)

180° − 50° − 72° = 58° (triangle)

$x =$ 58°

8

A coat hanger is an isosceles triangle.
The angle at the top is 110°. Find x.



180° − 110° = 70°

70° ÷ 2 = 35°

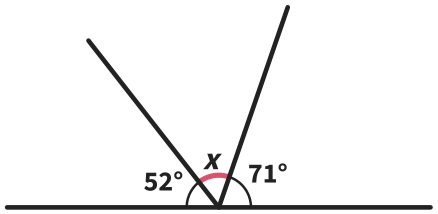
$x =$ 35°

Angle facts and reasons *further practice*

ANSWERS

9

Find the size of angle x. Give a reason.



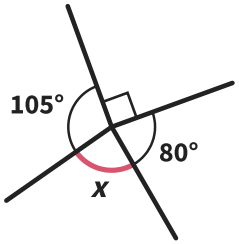
$71° + 52° = 123°$

$180° - 123° = 57°$ (straight line)

$x =$ $57°$

10

The square marks a right angle.
Find the size of angle x.



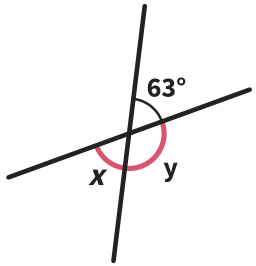
$90° + 105° + 80° = 275°$

$360° - 275° = 85°$ (around a point)

$x =$ $85°$

11

Two straight lines cross. Find x and y.
Give a reason for each.



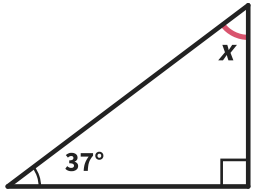
$x = 63°$ (vertically opposite)

$y = 180° - 63° = 117°$ (straight line)

Answer $x = 63°, y = 117°$

12

A flower bed is a right angled triangle.
One of its angles is 37°. Find x.

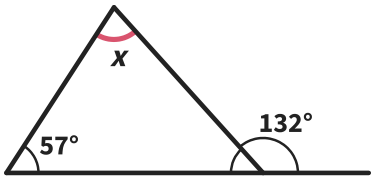


$180° - 90° - 37° = 53°$

$x =$ $53°$

13

Find the size of angle x. Give a reason for each step.



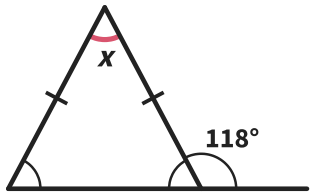
$180° - 132° = 48°$ (straight line)

$180° - 57° - 48° = 75°$ (triangle)

$x =$ $75°$

14

The triangle is isosceles. Find the size of angle x.



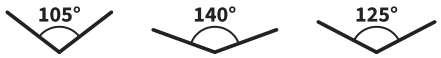
$180° - 118° = 62°$, so both base angles are $62°$

$180° - 62° - 62° = 56°$

$x =$ $56°$

15

Ali says angles of 105°, 140° and 125° fit together around a point. Is he right? Show how you know.



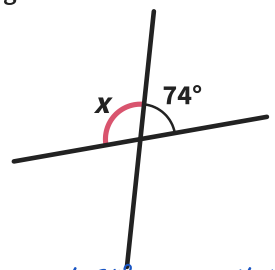
$105° + 140° + 125° = 370°$

around a point they must make $360°$

Answer No

16

Ben says $x = 74°$ because the angles are vertically opposite. Explain why Ben is wrong. Find x.



x is next to $74°$, not opposite it: a straight line

$180° - 74° = 106°$

$x =$ $106°$