

Brilliant Tutoring Programme Training – Maths

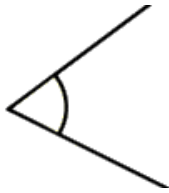
Basic angle rules

Angles on lines and points

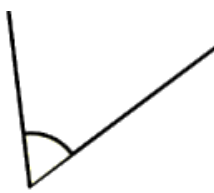
Warm up

Estimate the following angles

1.



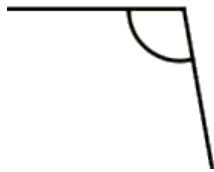
2.



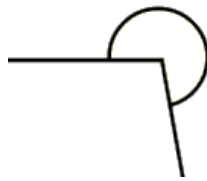
3.



4.



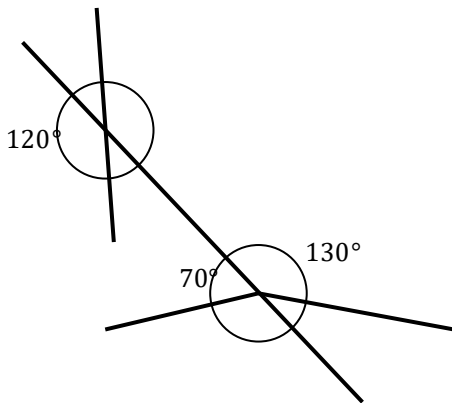
5.



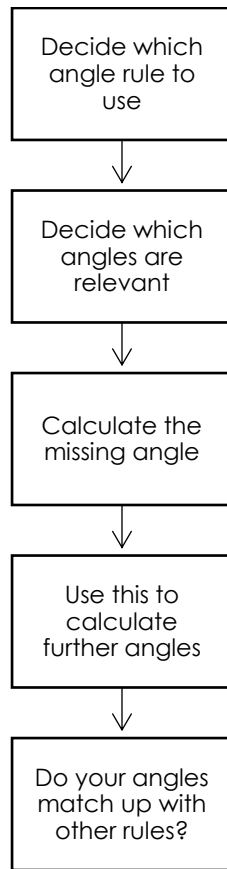
6.



Guidance

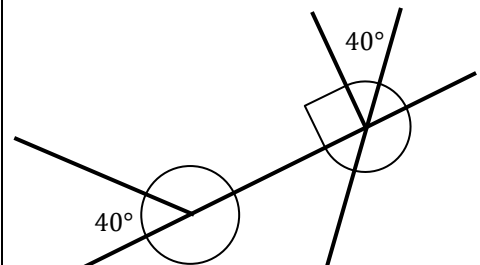


Metacognition

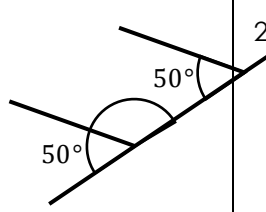
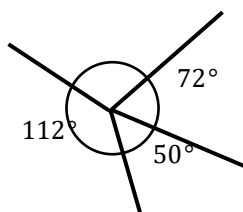


Guided practice

Find the missing angles



Practice

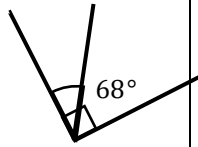
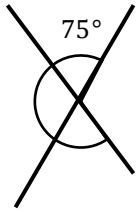
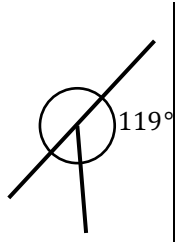
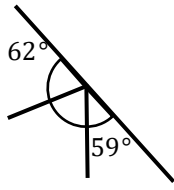


Problem Solving

- Three of these angles together make a straight line. Which three?

24° 36° 42° 58° 60° 120° 175°

- Which of these are impossible?
 - acute + acute = right angle
 - obtuse + obtuse = right angle
 - obtuse + obtuse = straight line
 - acute + obtuse = full turn
 - acute + right = obtuse angle



Angle rules with algebra

Warm up

Solve the following equations

1. $2x = 180$

2. $3x = 360$

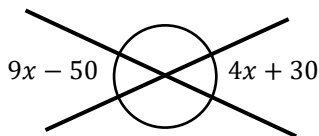
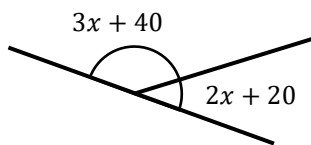
3. $x + 140 = 360$

4. $5x + 40 = 180$

5. $2x - 30 = x + 40$

6. $5x - 40 = 2x + 80$

Guidance



Metacognition

Decide which angle rule to use

Write down the equation matching the angle rule

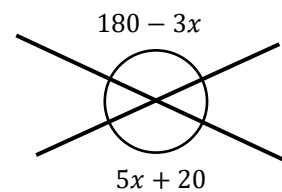
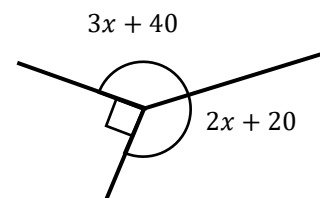
Simplify any expressions

Solve the equation

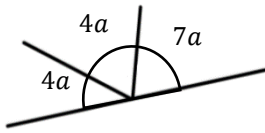
Substitute the value into each angle expression

Guided practice

Find the value of x , then calculate all the missing angles

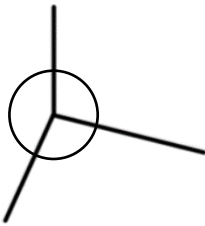


Practice



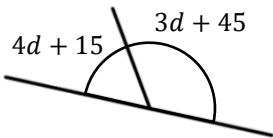
$8b$

$4b$

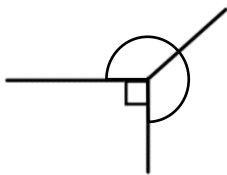


$6b$

$6m + 30$



$4m + 20$



$5m + 25$

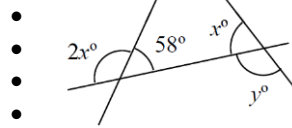
$150 - m$

Problem Solving

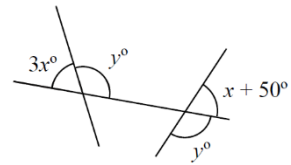
1. Three angles fit around a point
 The second angle is 20° more than the first.
 The third angle is twice the size of the second.
 Find the size of all three angles.

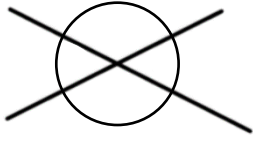
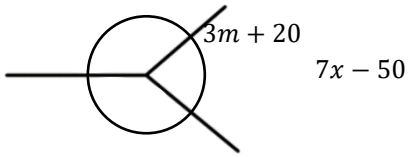
2. Find the values of x and y :

a.



b.





$$3x + 10$$