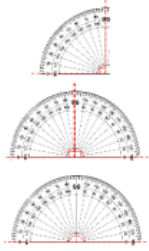# Angles on a Straight Line

There are ___90___ degrees in a right angle.

There are ___2___ right angles on a straight line.

There are ___180___ degrees on a straight line.

In our last trail we started looking at measuring angles in degrees and how we can measure angles using a protractor.

How to find an angle on a straight line

I can use my knowledge of angles to help me find the value of angle a without using a protractor.

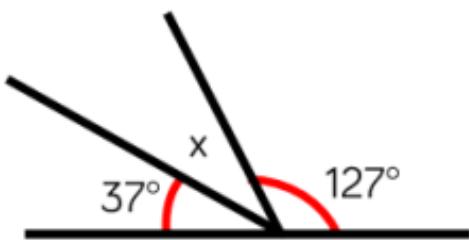I know that there are 180° on a straight line.

I can see that 33° degrees have already been used to create the first angle.

I now need to find the difference between 33 and 180.

$$180 - 33 = 147$$

Angle a = 147°

Example 1

I know that there are 180° on a straight line.

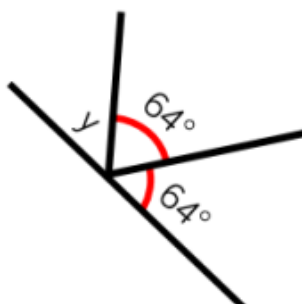So far there are angles of 37° and 127°.

$$37 + 127 = 164$$

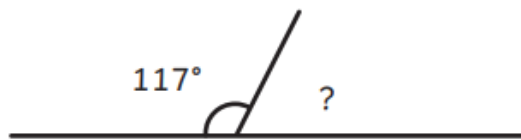To find the missing angle I need to find the difference between 164 and 180.

$$180 - 164 = 16$$
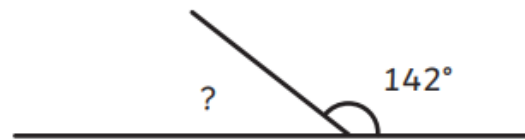
Angle x = 16°

Why don't you try:

Remember that the angles on a straight line should add up to 180°

Angles on a straight line always add up to 180°

117° / ?

180° – 117° = 63°

The missing angle is 63°.

? \ 142°
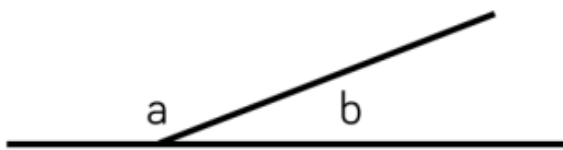
180° - 142° = 38°

The missing angle is 38°.

Below are some reasoning and problem solving challenges to try if you would like some additional practice. Good luck!

Here are two angles.

a   b

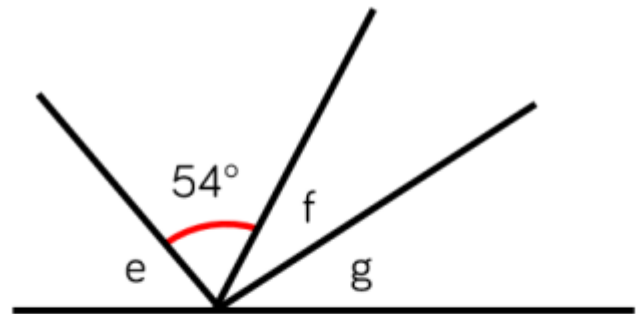Angle b is a prime number between 40 and 50

Use the clue to calculate what the missing angles could be.

Jack is measuring two angles on a straight line.

My angles measure 73° and 108°

Explain why at least one of Jack's angles must be wrong.

54°   f

e   g

- The total of angle f and g are the same as angle e
- Angle e is 9° more than the size of the given angle.
- Angle f is 11° more than angle g

Calculate the size of the angles.

Create your own straight line problem like this one for your partner.