

# Varied Fluency

## Step 5: Angles on a Straight Line

### National Curriculum Objectives:

Mathematics Year 5: (5G4b) [Identify angles at a point and one whole turn \(total 360 degrees\) and angles at a point on a straight line and half a turn \(total 180 degrees\).](#)

### Differentiation:

**Developing** Questions to support calculating missing angles on straight lines. All angles are in increments of  $5^\circ$  and are on a horizontal line. Up to two angles with labelled degrees.

**Expected** Questions to support calculating missing angles on straight lines. All angles are in increments of  $1^\circ$  and are on a horizontal line. Up to two angles with labelled degrees.

**Greater Depth** Questions to support calculating missing angles on straight lines. All angles are in increments of  $1^\circ$  and are on a horizontal line. Only one angle may be labelled with degrees and clues given to calculate the missing angles.

More [Year 5 Properties of Shapes](#) resources.

Did you like this resource? Don't forget to [review](#) it on our website.

## Angles on a Straight Line

## Angles on a Straight Line

1a. Match the facts.

Degrees on a straight line

90

Degrees in a right angle

180



VF

1b. Match the facts.

Degrees in 2 right angles

180

Right angles on a straight line

2



VF

2a. True or false?

$$50^\circ + 140^\circ = 180^\circ$$



VF

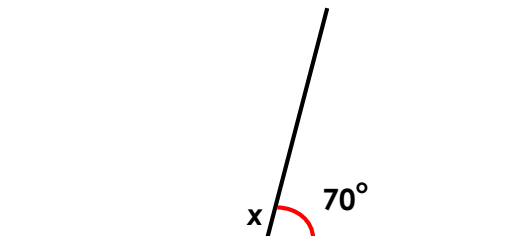
2b. True or false?

$$65^\circ + 115^\circ = 180^\circ$$



VF

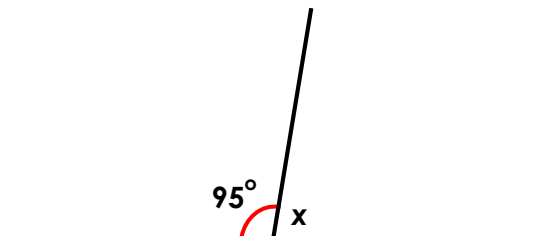
3a. Calculate the missing angle.



Angles not drawn to scale

VF

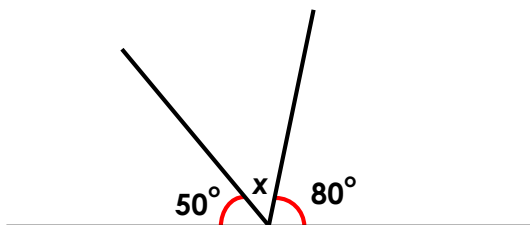
3b. Calculate the missing angle.



Angles not drawn to scale

VF

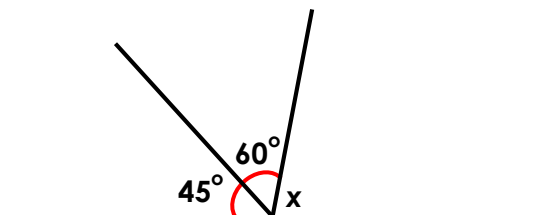
4a. Work out the missing angle from the given angle.



Angles not drawn to scale

VF

4b. Work out the missing angle from the given angle.



Angles not drawn to scale

VF

## Angles on a Straight Line

## Angles on a Straight Line

5a. Match the facts.

Degrees on a straight line

270

Degrees in a right angle

180

Degrees in 3 right angles

90



VF

5b. Match the facts.

Degrees in half a right angle

360

Degrees in 2 right angles

180

Degrees on 2 straight lines

45



VF

6a. True or false?

$$93^\circ + 97^\circ = 180^\circ$$



VF

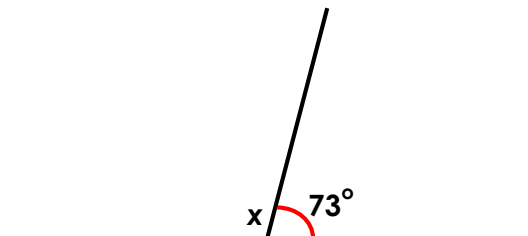
6b. True or false?

$$31^\circ + 149^\circ = 180^\circ$$



VF

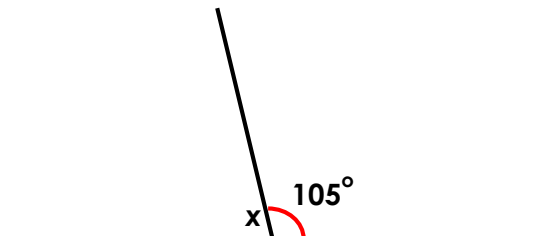
7a. Calculate the missing angle.



Angles not drawn to scale

VF

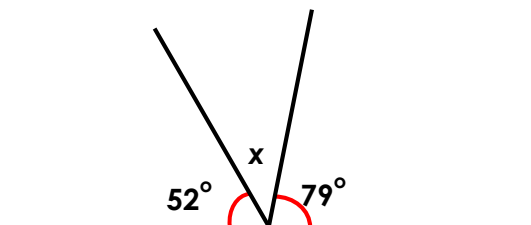
7b. Calculate the missing angle.



Angles not drawn to scale

VF

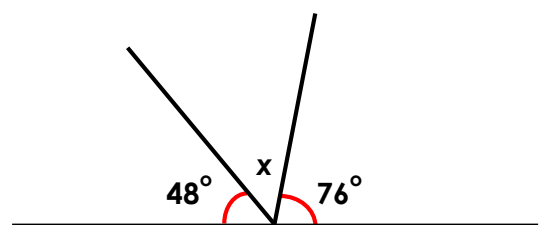
8a. Work out the missing angle from the two given angles.



Angles not drawn to scale

VF

8b. Work out the missing angle from the two given angles.



Angles not drawn to scale

VF

## Angles on a Straight Line

## Angles on a Straight Line

9a. Match the facts.

Degrees on 3 straight lines

450

Degrees in 5 right angles

540

Right angles on one side of 60 straight lines

120



VF

9b. Match the facts.

Degrees on 2 straight lines

20

Degrees in 5 right angles

450

Right angles on one side of 10 straight lines

360



VF

10a. True or false?

$$61^\circ + 119^\circ = 180^\circ$$



VF

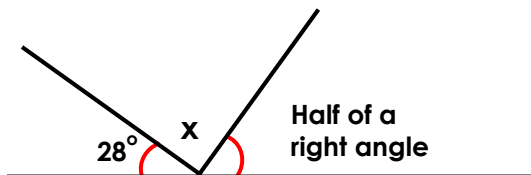
10b. True or false?

$$49^\circ + 132^\circ = 180^\circ$$



VF

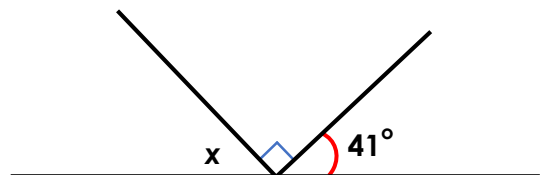
11a. Calculate the missing angle.



Angles not drawn to scale

VF

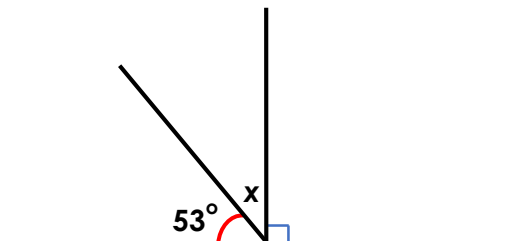
11b. Calculate the missing angle.



Angles not drawn to scale

VF

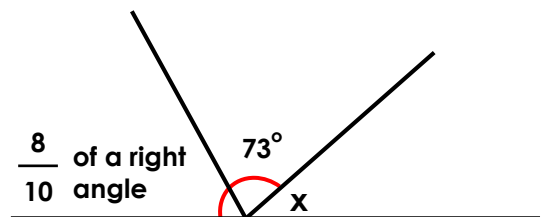
12a. Work out the missing angle from the two given angles.



Angles not drawn to scale

VF

12b. Work out the missing angle from the two given angles.



Angles not drawn to scale

VF

# Varied Fluency Angles on a Straight Line

## Developing

1a.

Degrees on a straight line	90
Degrees in a right angle	180

2a. **False** as  $50^\circ + 140^\circ = 190^\circ$

3a.  $110^\circ$

4a.  $50^\circ$

## Expected

5a.

Degrees on a straight line	270
Degrees in a right angle	180
Degrees in 3 right angles	90

6a. **False** as  $93^\circ + 97^\circ = 190^\circ$

7a.  $107^\circ$

8a.  $49^\circ$

## Greater Depth

9a.

Degrees on 3 straight lines	450
Degrees in 5 right angles	540
Right angles on one side of 60 straight lines	120

10a. **True**

11a.  $107^\circ$

12a.  $37^\circ$

# Varied Fluency Angles on a Straight Line

## Developing

1b.

Degrees in 2 right angles	180
Right angles on a straight line	2

2b. **True**

3b.  $85^\circ$

4b.  $75^\circ$

## Expected

5b.

Degrees in half a right angle	360
Degrees in 2 right angles	180
Degrees on 2 straight lines	45

6b. **True**

7b.  $75^\circ$

8b.  $56^\circ$

## Greater Depth

9b.

Degrees on 2 straight lines	20
Degrees in 5 right angles	450
Right angles on one side of 10 straight lines	360

10b. **False** as  $139^\circ + 132^\circ = 181^\circ$

11b.  $49^\circ$

12b.  $35^\circ$