

Varied Fluency

Step 4: Drawing Lines and Angles Accurately

Teaching note:

Please note that precise measurements are dependent upon printer settings.

National Curriculum Objectives:

Mathematics Year 5: (5G4c) [Draw given angles, and measure them in degrees.](#)

Differentiation:

Developing Questions to support drawing lines accurately that are multiples of 5mm and acute and obtuse angles accurately that are multiples of 5° . Horizontal lines used for all drawings. Outer scale used.

Expected Questions to support drawing lines accurately that are multiples of 1mm and acute and obtuse angles accurately that are multiples of 1° . Horizontal lines used for most drawings. Mostly outer scale used.

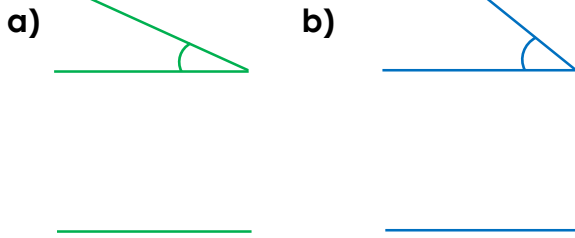
Greater Depth Questions to support drawing lines accurately that are multiples of 1mm and acute and obtuse angles accurately that are multiples of 1° . Diagonal lines used for all drawings. Inner and outer scale used.

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

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

Drawing Lines and Angles Accurately

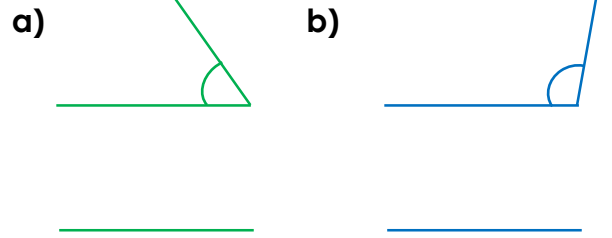
1a. Draw angles that are 30° larger than these.



VF

Drawing Lines and Angles Accurately

1b. Draw angles that are 20° smaller than these.



VF

2a. Draw a line to connect the dots. Circle the closest length.

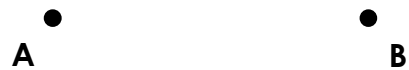
5.5cm 5cm 40mm



VF

2b. Draw a line to connect the dots. Circle the closest length.

30mm 4.5cm 4cm



VF

3a. Complete the table.

Original	Number of degrees larger	New
	20	_____
	50	_____



VF

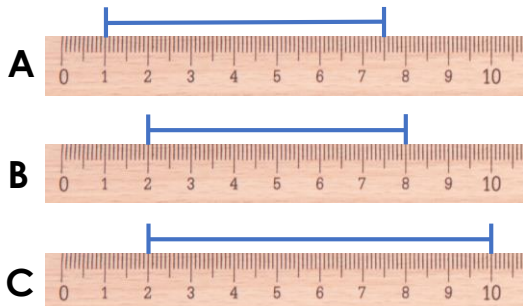
3b. Complete the table.

Original	Number of degrees smaller	New
	85	_____
	30	_____



VF

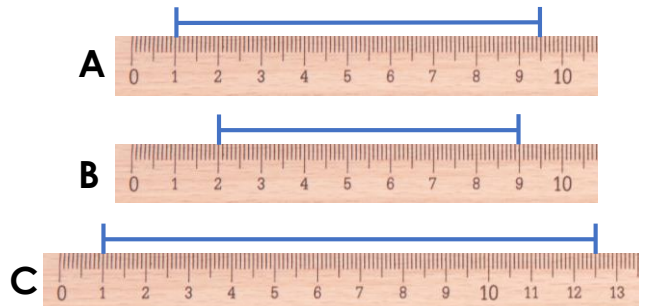
4a. Draw lines that are 15mm longer than these.



(not to scale)

VF

4b. Draw lines that are 20mm shorter than these.



(not to scale)

VF

Drawing Lines and Angles Accurately

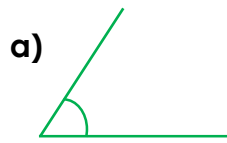
5a. Draw angles that are 25° larger than these.



VF

Drawing Lines and Angles Accurately

5b. Draw angles that are 15° smaller than these.



VF

6a. Draw a line to connect the dots. Circle the closest length.

6.5cm 6cm 8mm 62mm



VF

6b. Draw a line to connect the dots. Circle the closest length.

34mm 3.9cm 3cm 1cm



VF

7a. Complete the table.

Original	Number of degrees larger	New
	43	
	93	



VF

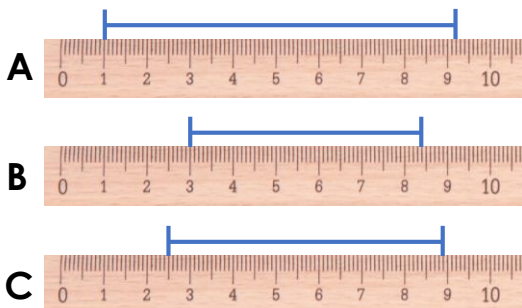
7b. Complete the table.

Original	Number of degrees smaller	New
	11	
	14	



VF

8a. Draw lines that are 13mm longer than these.

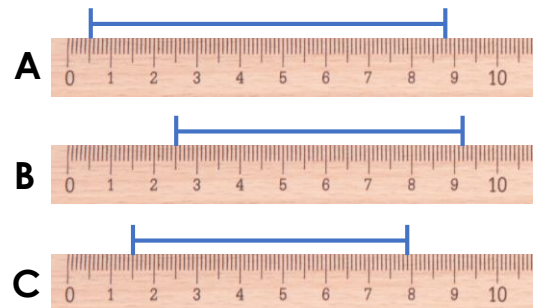


(not to scale)



VF

8b. Draw lines that are 31mm shorter than these.



(not to scale)

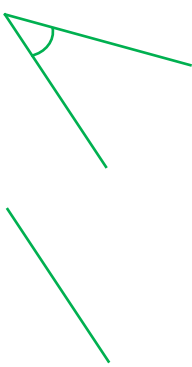


VF

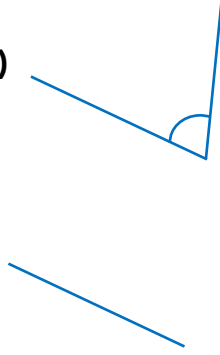
Drawing Lines and Angles Accurately

9a. Draw angles that are 42° larger than these.

a)



b)



VF

Drawing Lines and Angles Accurately

9b. Draw angles that are 11° smaller than these.

a)



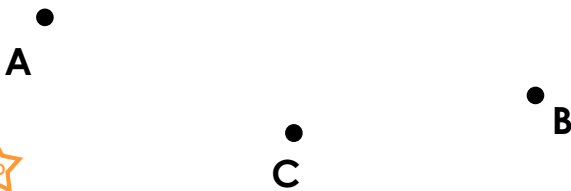
b)



VF

10a. Draw lines to connect the dots: $A \rightarrow B$ and $B \rightarrow C$. Circle the closest total length.

9.2cm 8cm 9mm 97mm



VF

10b. Draw lines to connect the dots: $A \rightarrow B$ and $B \rightarrow C$. Circle the closest total length.

6.1cm 5.7cm 53mm



VF

11a. Complete the table.

Original	Number of degrees larger	New
	53	
	38	



VF

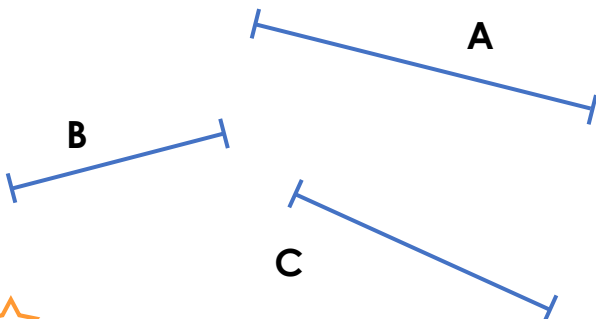
11b. Complete the table.

Original	Number of degrees smaller	New
	12	
	91	



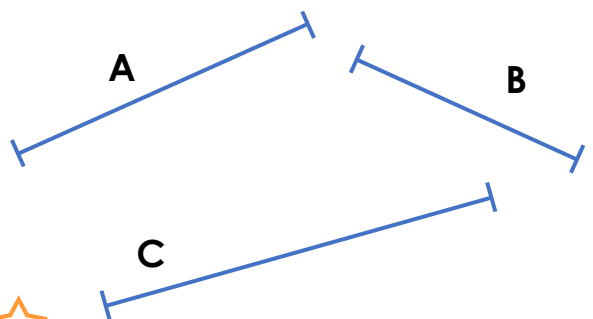
VF

12a. Draw lines that are 45mm longer than these.



VF

12b. Draw lines that are 19mm shorter than these.



VF

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Developing

- 1a. a) 55° b) 70°
2a. 5.5cm
3a. Angles drawn at 75° and 160°
4a. Lines drawn at A. 8cm, B. 7.5cm and C. 9.5cm.

Expected

- 5a. a) 68° b) 55°
6a. 6.5cm
7a. Angles drawn at 65° and 131°
8a. Lines drawn at A. 9.5cm, B. 6.7cm and C. 7.7cm.

Greater Depth

- 9a. a) 84° b) 112°
10a. 97mm
11a. Angles drawn at 114° and 70°
12a. Lines drawn at A. 9.1cm, B. 7.4cm and C. 8.2cm.

Varied Fluency

Drawing Lines and Angles Accurately

Developing

- 1b. a) 35° b) 80°
2b. 4cm
3b. Angles drawn at 50° and 35°
4b. Lines drawn at A. 6.5cm, B. 5cm and C. 9.5cm.

Expected

- 5b. a) 43° b) 41°
6b. 3.9cm
7b. Angles drawn at 31° and 61°
8b. Lines drawn at A. 5.2cm, B. 3.6cm and C. 3.3cm.

Greater Depth

- 9b. a) 24° b) 44°
10b. 6.1cm
11b. Angles drawn at 30° and 174°
12b. Lines drawn at A. 2.3cm, B. 1.3cm and C. 3.4cm.