

Varied Fluency

Step 2: Measuring with a Protractor 1

National Curriculum Objectives:

Mathematics Year 5: (5G4a) [Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles](#)

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

Differentiation:

Developing Questions to support drawing and measuring acute angles in 10° increments with a protractor on a horizontal line.

Expected Questions to support drawing and measuring acute angles in 5° increments with a protractor, most angles presented on a horizontal line.

Greater Depth Questions to support drawing and measuring acute angles of any value with a protractor, not all angles are presented on a horizontal line.

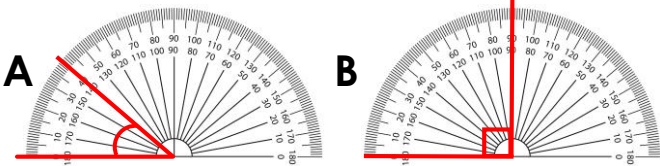
More [Year 5 Properties of Shapes](#) resources.

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

Measuring with a Protractor 1

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1a. Circle the letter of the angle that is $< 90^\circ$?



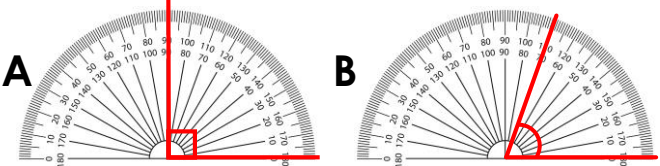
Give the measurement for each angle.

A = _____ B = _____



VF

1b. Circle the letter of the angle that is $< 90^\circ$?



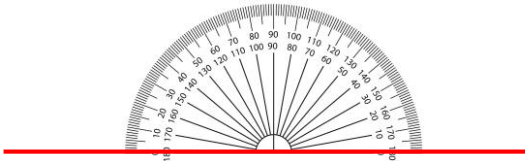
Give the measurement for each angle.

A = _____ B = _____



VF

2a. Draw an angle which is $< 90^\circ$.



Which title would you use for your angle?

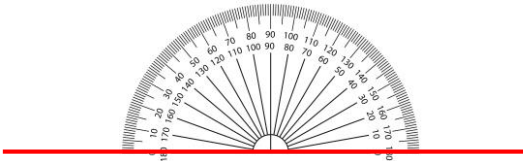


Acute Angle

Right Angle

VF

2b. Draw an angle which is $< 90^\circ$.



Which title would you use for your angle?

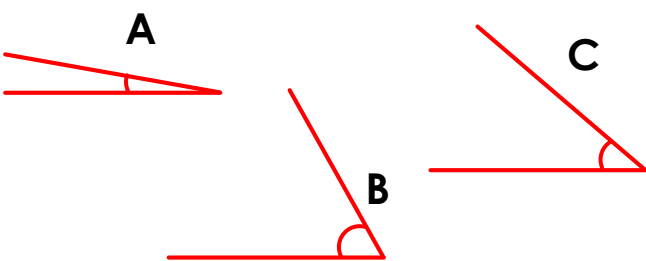


Acute Angle

Right Angle

VF

3a. Estimate the size of the acute angles.



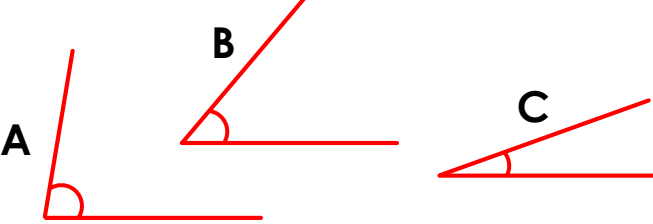
Now use a protractor to measure your accuracy. Record your results in a table.

Angle	Estimated	Measured
A		
B		
C		



VF

3b. Estimate the size of the acute angles.



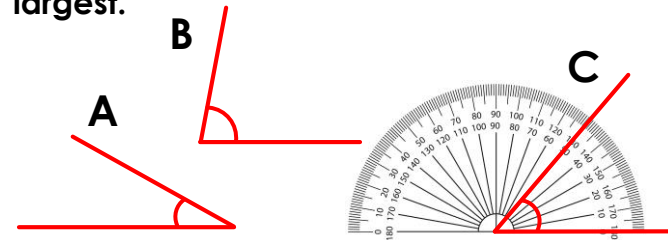
Now use a protractor to measure your accuracy. Record your results in a table.

Angle	Estimated	Measured
A		
B		
C		



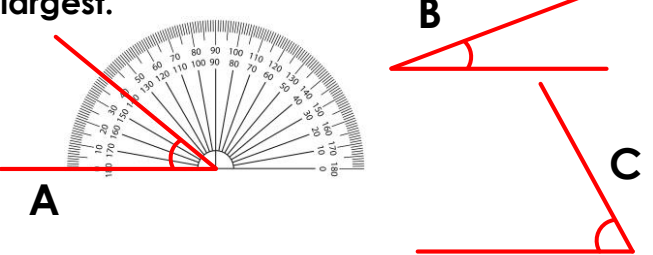
VF

4a. Order the angles from smallest to largest.



VF

4b. Order the angles from smallest to largest.

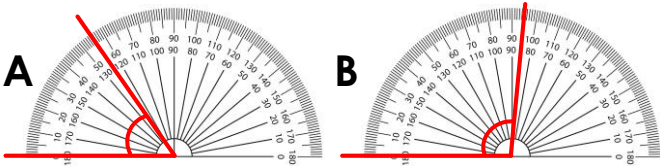


VF

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5a. Circle the letter of the angle that is < 90°?



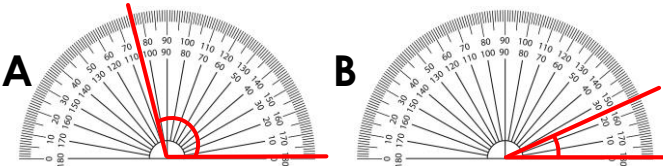
Give the measurement for each angle.

A = _____ B = _____



VF

5b. Circle the letter of the angle that is < 90°?



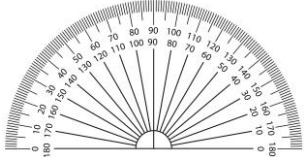
Give the measurement for each angle.

A = _____ B = _____



VF

6a. Draw an angle which is < 90° using the outer scale.



Which title would you use for your angle?



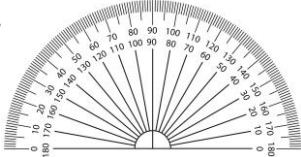
Acute

Right

Obtuse

VF

6b. Draw an angle which is < 90° using the inner scale.



Which title would you use for your angle?



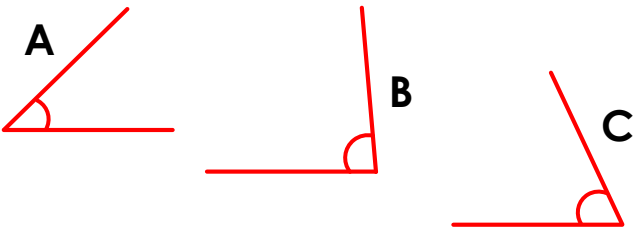
Acute

Right

Obtuse

VF

7a. Estimate the size of the acute angles.



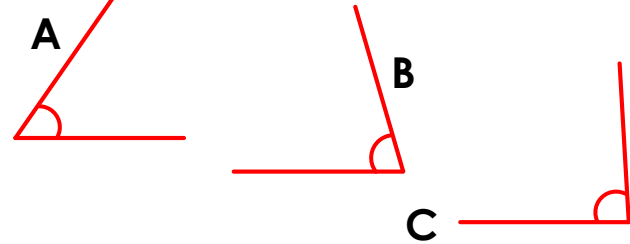
Now use a protractor to measure your accuracy. Record your results in a table.

Angle	Estimated	Measured
A		
B		
C		



VF

7b. Estimate the size of the acute angles.



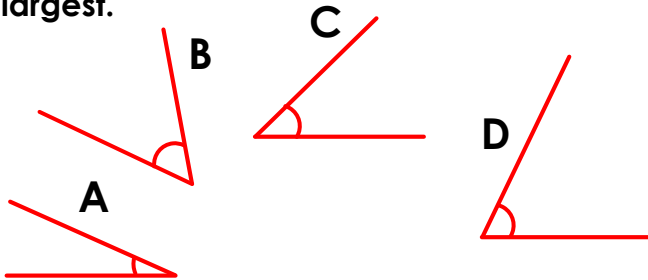
Now use a protractor to measure your accuracy. Record your results in a table.

Angle	Estimated	Measured
A		
B		
C		



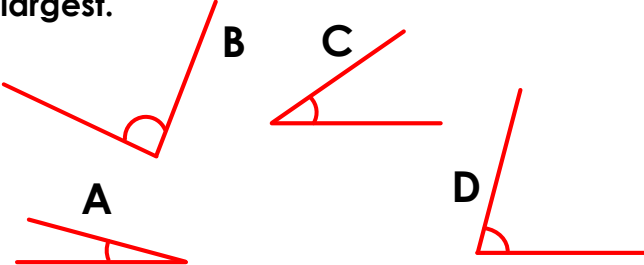
VF

8a. Order the angles from smallest to largest.



VF

8b. Order the angles from smallest to largest.

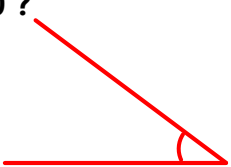


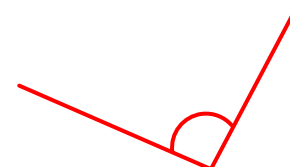
VF

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9a. Circle the letter of the angle that is $< 90^\circ$?

A

B

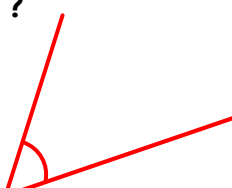
Give the measurement for each angle.

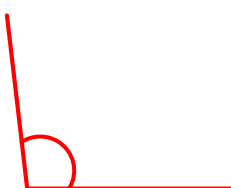
A = _____ B = _____

GD

VF

9b. Circle the letter of the angle that is $< 90^\circ$?

A

B


Give the measurement for each angle.

A = _____ B = _____

GD

VF

10a. Draw an angle which is $< 90^\circ$ using the inner scale of your protractor.




Give your angle a title using mathematical language to describe its size.

GD

VF

10b. Draw an angle which is $< 90^\circ$ using the outer scale of your protractor.

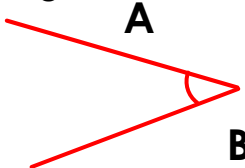


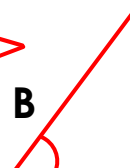
Give your angle a title using mathematical language to describe its size.

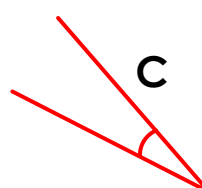
GD

VF

11a. Estimate the size of the acute angles.

A

B

C

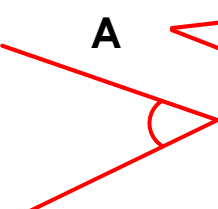
Use a protractor to measure your accuracy. Record your results in a table.

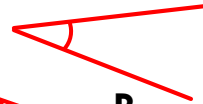
Angle	Estimated	Measured
A		
B		
C		


GD

VF

11b. Estimate the size of the acute angles.

A

B

C

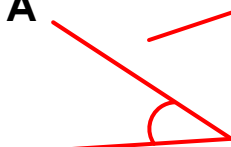
Use a protractor to measure your accuracy. Record your results in a table.

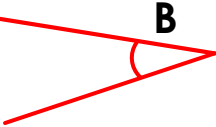
Angle	Estimated	Measured
A		
B		
C		


GD

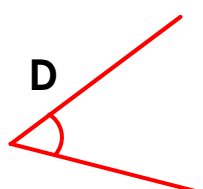
VF

12a. Order the angles from smallest to largest.

A

B

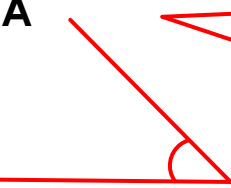
C

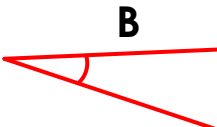
D

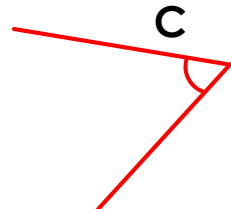
GD


VF

12b. Order the angles from smallest to largest.

A

B

C

D

GD

VF

Varied Fluency

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Teaching Note: Measurements may vary due to printer settings.

Developing

1a. A is $< 90^\circ$. A = 40° B = 90°

2a. Teacher to mark angles $< 90^\circ$ drawn by pupil. Acute angle label should be used.

3a. A = 10° B = 60° C = 40°

4a. A, C, B

Expected

5a. A is $< 90^\circ$. A = 55° B = 95°

6a. Teacher to mark angles $< 90^\circ$ drawn by pupil using outer scale. Acute angle label should be used.

7a. A = 45° B = 85° C = 65°

8a. A, C, B, D

Greater Depth

9a. A is $< 90^\circ$. A = 37° B = 94°

10a. Teacher to mark angles $< 90^\circ$ drawn by pupil using inner scale. Title should refer to acute angles.

11a. A = 37° B = 53° C = 21°

12a. C, B, A, D

Varied Fluency

Measuring with a Protractor 1

Teaching Note: Measurements may vary due to printer settings.

Developing

1b. B is $< 90^\circ$. A = 90° B = 70°

2b. Teacher to mark angles $< 90^\circ$ drawn by pupil. Acute angle label should be used.

3b. A = 80° B = 50° C = 20°

4b. B, A, C

Expected

5b. B is $< 90^\circ$. A = 105° B = 25°

6b. Teacher to mark angles $< 90^\circ$ drawn by pupil using inner scale. Acute angle label should be used.

7b. A = 55° B = 75° C = 85°

8b. A, C, D, B

Greater Depth

9b. A is $< 90^\circ$. A = 54° B = 97°

10b. Teacher to mark angles $< 90^\circ$ drawn by pupil using outer scale. Title should refer to acute angles.

11b. A = 28° B = 44° C = 23°

12b. D, B, A, C