Varied Fluency
Step 3: Measuring with a Protractor 2

National Curriculum Objectives:

Mathematics Year 5: (5G4a) <u>Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles</u>
Mathematics Year 5: (5G4c) <u>Draw given angles and measure them in degrees</u>

Differentiation:

Developing Questions to support drawing and measuring obtuse angles in increments of 10˚. Most angles on a horizontal line. (Protractor pre-placed for most angles).
**Expected** Questions to support drawing and measuring obtuse angles in increments of 5˚ Some angles on a horizontal line. (Protractor pre-placed for some angles).
Greater Depth Questions to support drawing and measuring obtuse angles in increments of 1˚. Angles on horizontal and diagonal lines. (No pre-placed protractor).

More <u>Year 5 Properties of Shapes</u> resources.
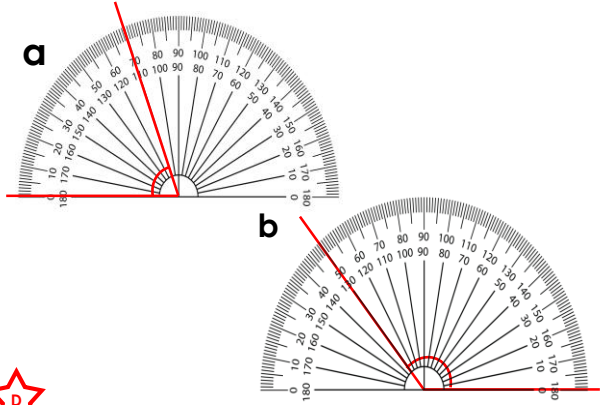
Did you like this resource? Don't forget to <u>review</u> it on our website.
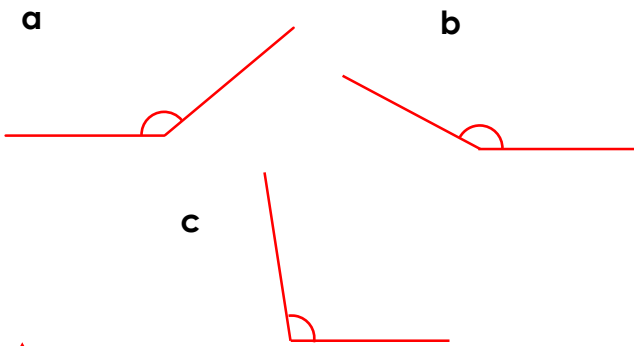
1a. Which angle is obtuse?

a
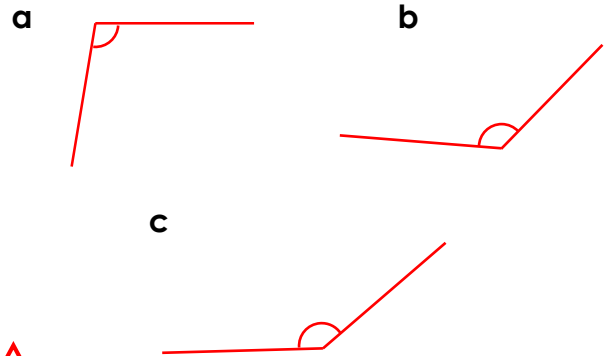
b
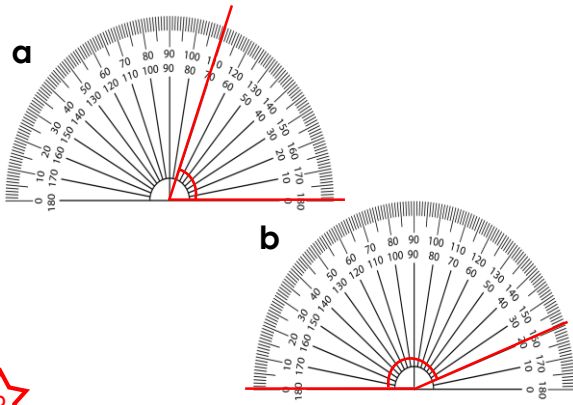
VF

1b. Which angle is obtuse?
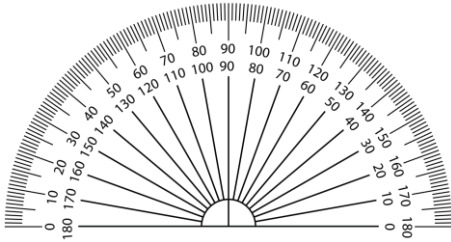
a

b

VF

2a. Estimate these obtuse angles.

a

b

c

VF

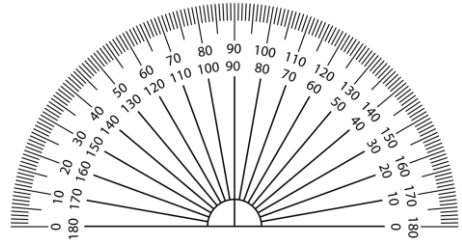**2b. Estimate these obtuse angles.**

a

b

c

VF

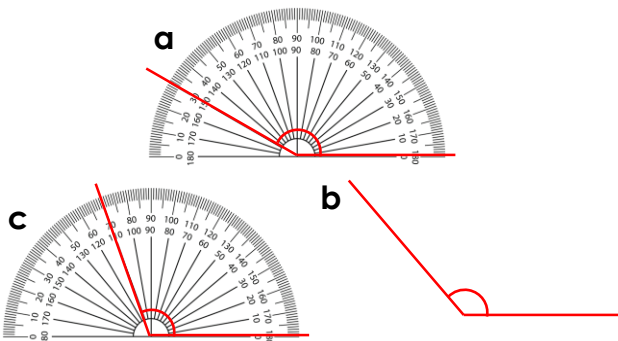**3a. Draw an obtuse angle.**

VF

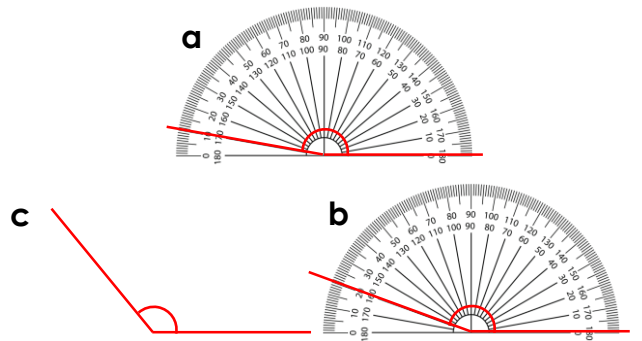**3b. Draw a 120˚ angle.**

VF

4a. Order these angles from smallest to largest.

a

b

c

VF

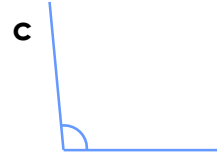**4b. Order these angles from largest to smallest.**

a

b

c

VF

Varied Fluency – Measuring with a Protractor 2 – Year 5 Developing

5a. Which angles are obtuse?

a   b

c
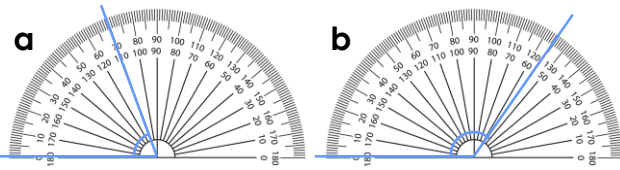
E   VF

5b. Which angles are obtuse?

a   b

c
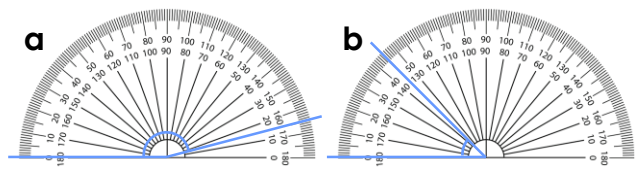
E   VF

6a. Estimate these obtuse angles.

a   b

c
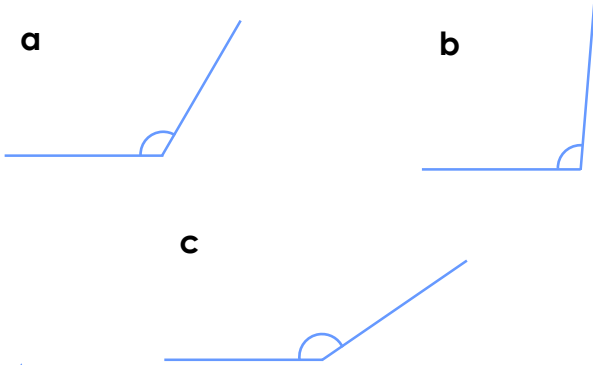
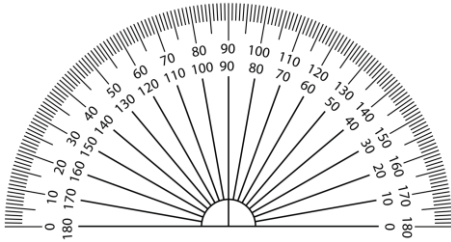E   VF

6b. Estimate these obtuse angles.

a   b

c
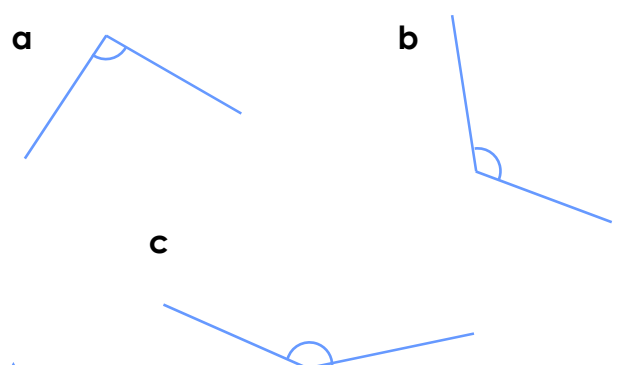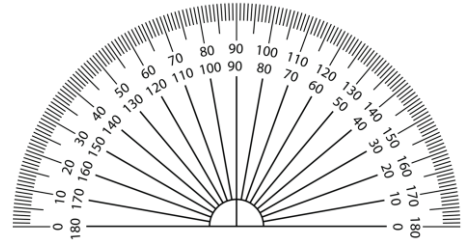
E   VF

7a. Draw an obtuse angle using the outer scale.

E   VF

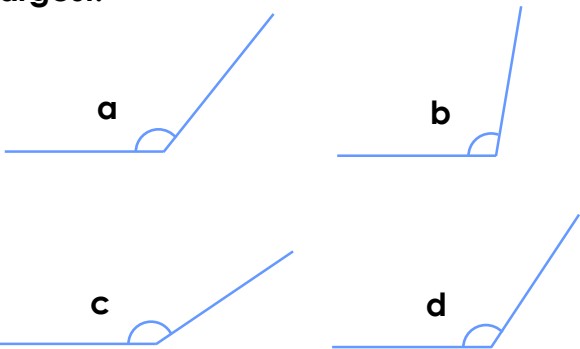**7b. Draw a 155˚ angle using the inner scale.**

E   VF

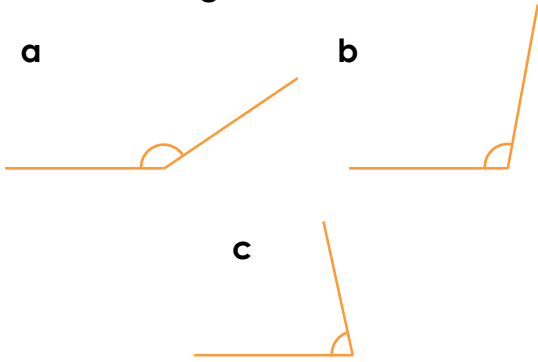**8a. Order these angles from smallest to largest.**

a   b

c   d

E   VF

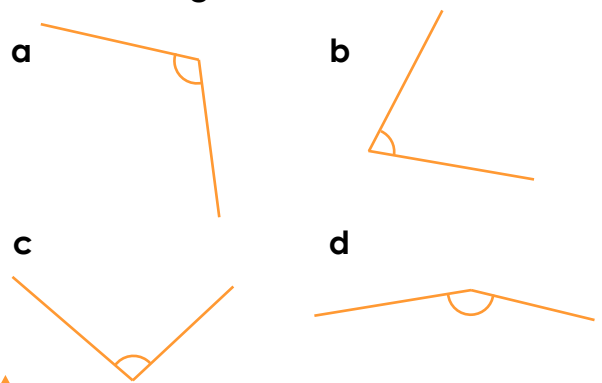**8b. Order these angles from largest to smallest.**

b

a

c

d

E   VF

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Varied Fluency – Measuring with a Protractor 2 – Year 5 Expected
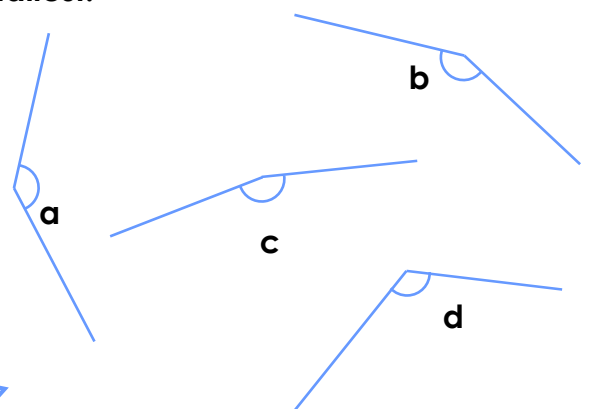
9a. Which angles are obtuse?

a b

c

GD VF

9b. Which angles are obtuse?

a b

c d

GD VF

10a. Estimate these obtuse angles.

a b

c d
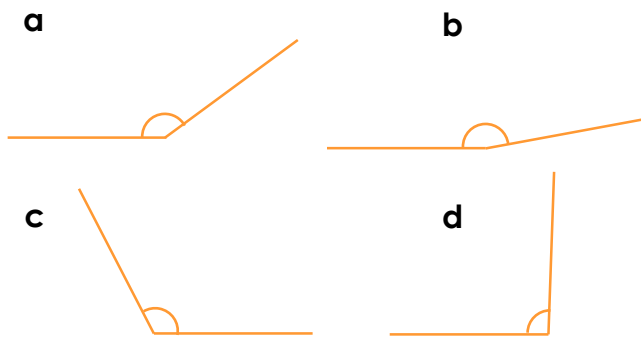
GD VF

10b. Estimate these obtuse angles.
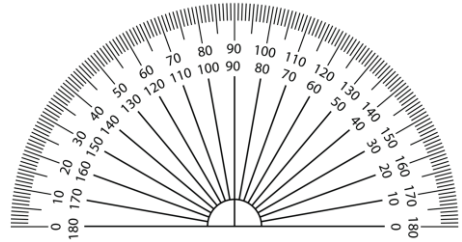
a b

c d
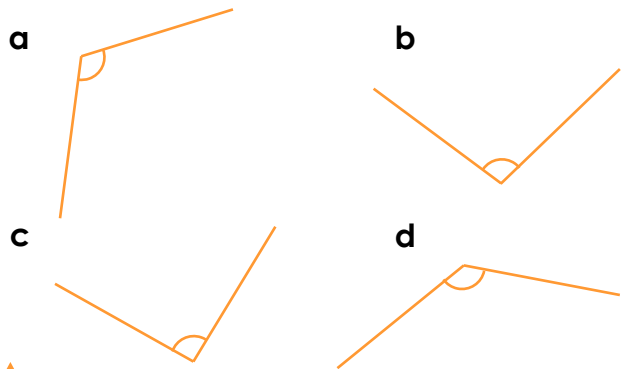
GD VF

11a. Draw a 173˚ angle using the outer scale.
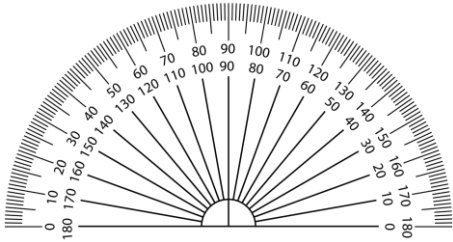
GD VF

11b. Draw a 97˚ angle using the inner scale.

GD VF

12a. Order these angles from smallest to largest.
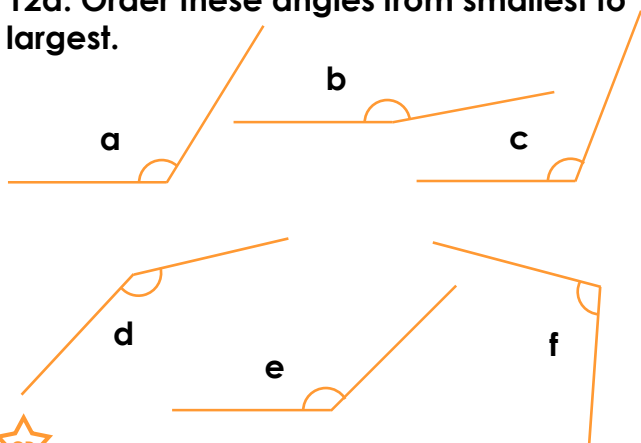
b

a c

d

e f

GD VF

12b. Order these angles from largest to smallest.

a b c

e

d f

GD VF

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Varied Fluency – Measuring with a Protractor 2 – Year 5 Greater Depth
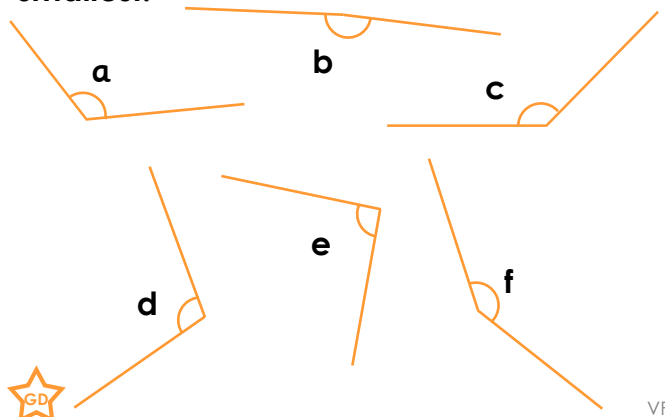
Varied Fluency
Measuring with a Protractor 2

Developing

1a. b

2a. a = 140˚, b = 150˚, c = 100˚ (Accept answers 10˚ either side of given answers)

3a. Teacher marks – angle should be > 90˚

4a. c, b, a

Expected

5a. b, c

6a. a = 120˚, b = 95˚, c = 145˚ (Accept answers 5˚ either side of given answers)

7a. Teacher marks – angle should be > 90˚ on outer scale

8a. b, d, a, c

Greater Depth

9a. a, b

10a. a = 144˚, b = 170˚, c = 120˚, d = 92˚ a = 120˚, b = 95˚, c = 145˚ (Accept answers 5˚ either side of given answers)

11a. Teacher marks – angle should be 173˚ on outer scale

12a. f, c, a, e, d, b

Developing

1b. b

2b. a = 100˚, b = 130˚, c = 140˚ (Accept answers 10˚ either side of given answers)

3b. Teacher marks – angle should be 120˚

4b. a, b, c

Expected

5b. a, c

6b. a = 95˚, b = 120˚, c= 145˚ a = 120˚, b = 95˚, c = 145˚ (Accept answers 5˚ either side of given answers)

7b. Teacher marks – angle should be 155˚ on inner scale

8b. c, b, a, d

Greater Depth

9b. a, c, d

10b. a = 115˚, b = 100˚, c= 92˚, d = 130˚ a = 120˚, b = 95˚, c = 145˚ (Accept answers 5˚ either side of given answers)

11b. Teacher marks – angle should be 97˚ on inner scale

12b. b, f, c, a, d, e