Varied Fluency
Step 7: Lengths and Angles in Shapes

National Curriculum Objectives:

Mathematics Year 5: (5G2a) Use the properties of rectangles to deduce related facts and find missing lengths and angles
Mathematics Year 5: (5G4b) Identify: angles at a point and one whole turn (total 360), angles at a point on a straight line and ½ a turn (total 180) other multiples of 90°

Differentiation:

Developing Questions to support finding lengths and angles in shapes. Including squares, rectangles and 6 sided rectilinear compound shapes.
Expected Questions to support finding lengths and angles in shapes. Including triangles, squares, rectangles and 6 sided rectilinear compound shapes. Some questions using adjoining shapes.
Greater Depth Questions to support finding lengths and angles in shapes. Including triangles, quadrilaterals and 8 sided rectilinear compound shapes. More than one adjoining shape per question.
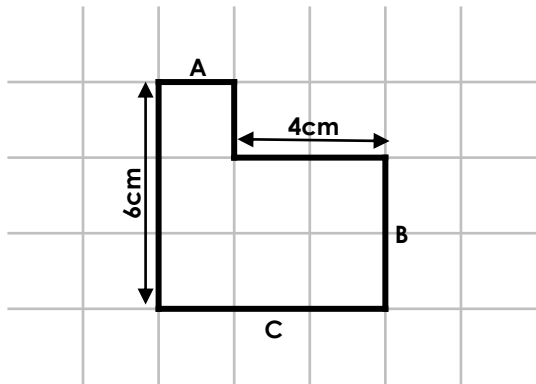
More Year 5 Properties of Shapes resources.

Did you like this resource? Don't forget to review it on our website.

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Varied Fluency – Lengths and Angles in Shapes – Teaching Information

1a. Calculate the length of sides A, B and C.

A

4cm

6cm

B

C

VF

1b. Calculate the length of sides A, B and C.

A

B

C

9cm

VF

2a. Calculate angles A and B.

A

B
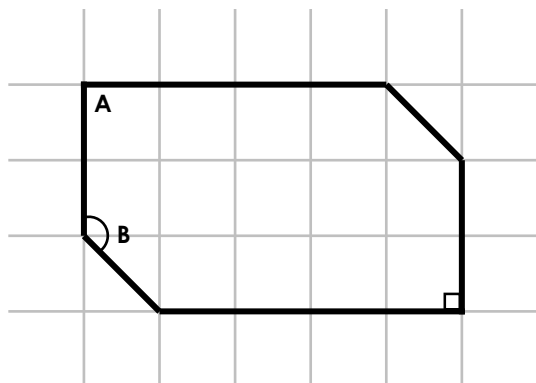
VF

2b. Calculate angles A and B.
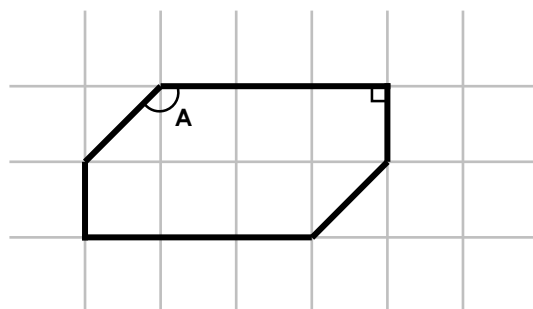
A

B
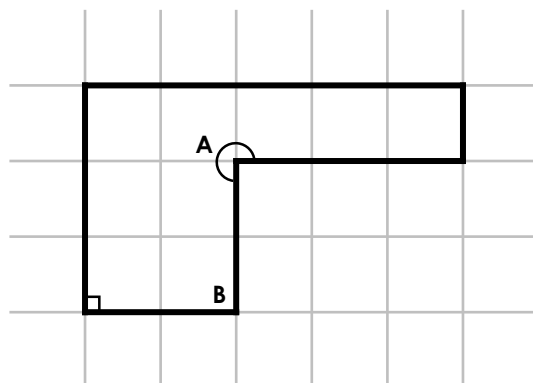
VF

3a. Side A is 6cm. True or false?
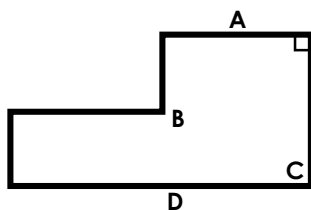
10cm

A
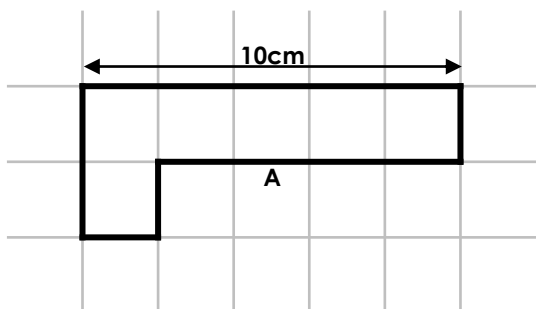
VF

3b. Angle A is 90°. True or false?

A

VF

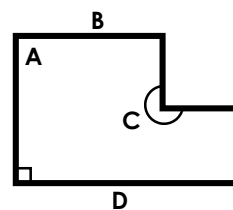**4a.** Match the angles and lengths to the shape.

1. 270°
2. 3cm
3. 5cm
4. 90°

A

B

C

D

VF

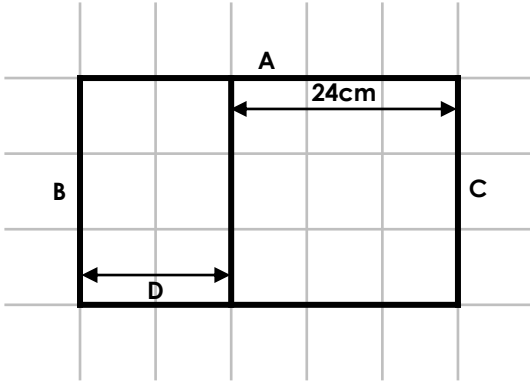**4b.** Match the angles and lengths to the shape.
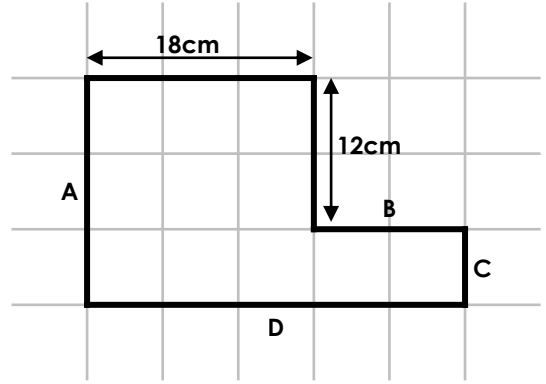
1. 4cm
2. 90°
3. 6cm
4. 270°

B

A

C

D

VF

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5a. Calculate the length of sides A, B, C and D.

A

24cm

B

C

D

E

VF

5b. Calculate the length of sides A, B, C and D.

18cm

12cm

A

B

C

D

E

VF

6a. Calculate angles A, B and C.

A

B

C

E
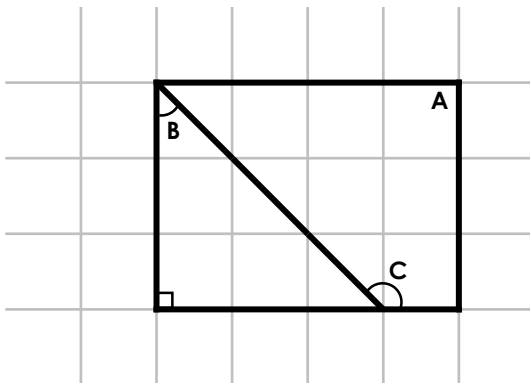
VF

6b. Calculate angles A, B and C.

A

C

B

E
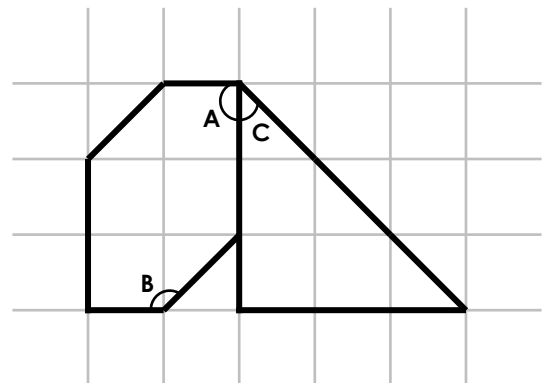
VF

7a. Angle A and Angle B total 145°. True or false?

A

B

E
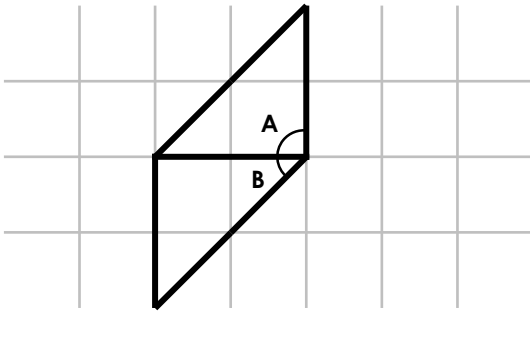
VF

7b. Side A is 24cm. True or false?

12cm

A

E
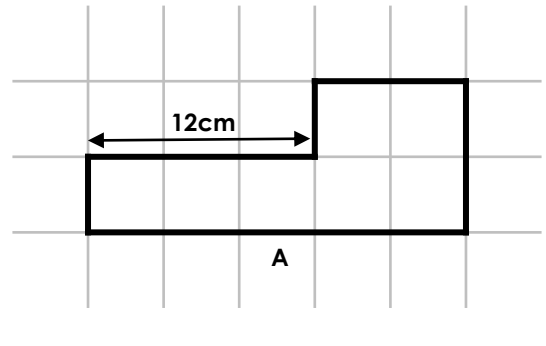
VF

8a. Match the lengths and angles to the shape.

1. 12cm
2. 135°
3. 45°
4. 9cm

A

C

B

D

E
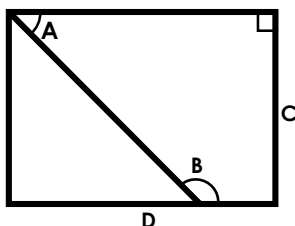
VF

8b. Match the lengths and angles to the shape.

1. 16cm
2. 270°
3. 10cm
4. 4cm

A

B

C

D

E

VF

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Varied Fluency – Lengths and Angles in Shapes – Year 5 Expected
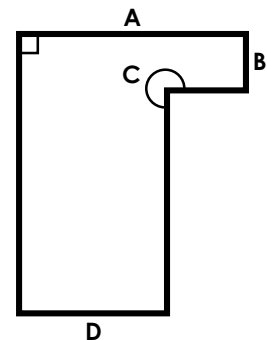
Lengths and Angles in Shapes

Lengths and Angles in Shapes

9a. Calculate the length of sides A, B and C.

30cm

A
B
C

GD
VF

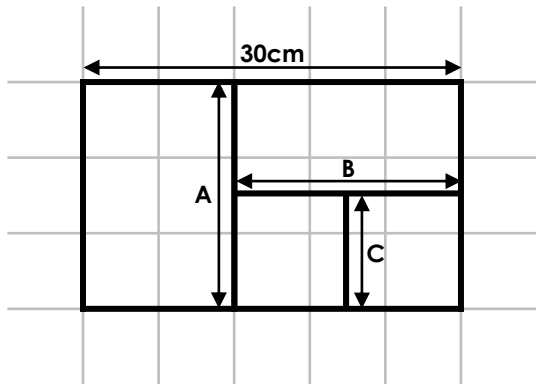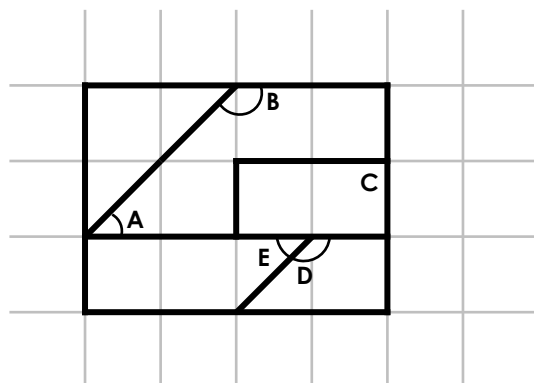**9b. Calculate the length of sides A, B and C.**

16cm

B
C
A
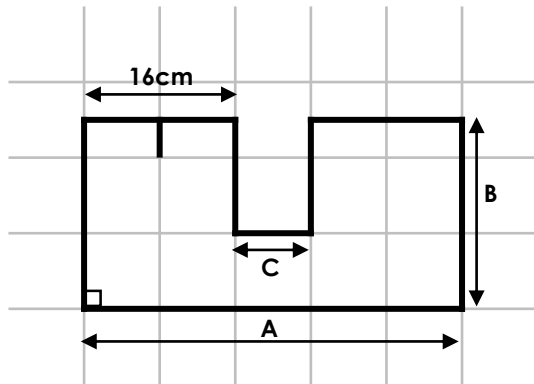
GD
VF

10a. Calculate angles A, B, C, D and E.

C
D
E
A
B
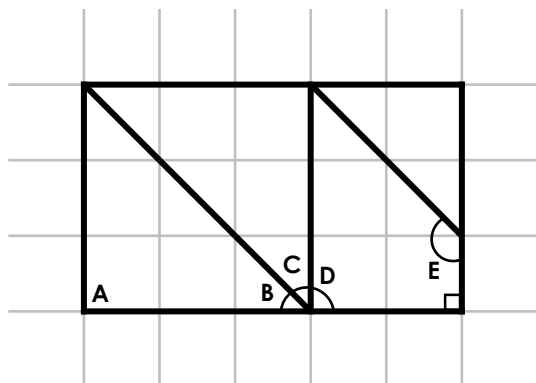
GD
VF

10b. Calculate angles A, B, C, D and E.

B
C
A
E
D

GD
VF

11a. Side A is 7cm. True or false?

2.5cm

A
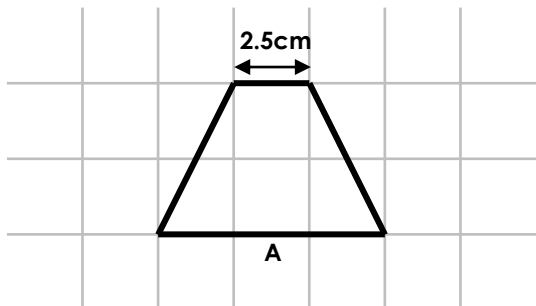
GD
VF

11b. Angle A is 44°. True or false?

56°
A
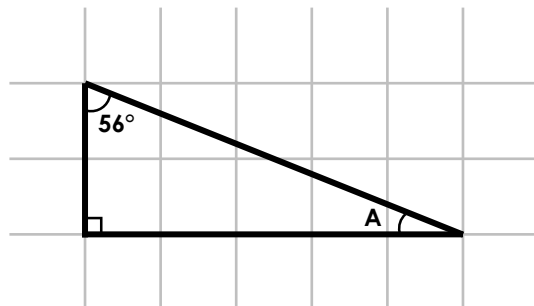
GD
VF

12a. Match the lengths and angles to the shape.

1. 9cm
2. 12cm
3. 45°
4. 135°
5. 6cm

A
B
C
D
E
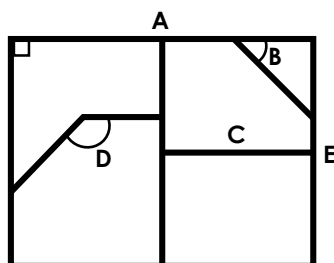
GD
VF

12b. Match the lengths and angles to the shape.

1. 135°
2. 16cm
3. 4cm
4. 90°
5. 8cm

A
B
C
D
E

GD
VF

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Varied Fluency – Lengths and Angles in Shapes – Year 5 Greater Depth
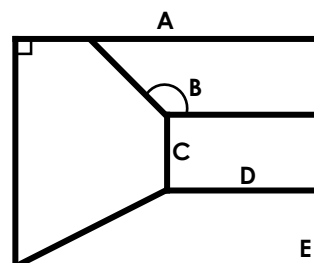
Varied Fluency
Lengths and Angles in Shapes

Developing
1a. **A = 2cm; B = 4cm; C = 6cm**
2a. **A = 90°; B = 135°**
3a. **False, side A is 8cm**
4a. **1 – B; 2 – A; 3 – D; 4 – C**

Expected
5a. **A = 40cm; B = 24cm; C = 24cm; D = 16cm**
6a. **A = 90°; B = 45°; C = 135°**
7a. **False, angle A and B total 135°**
8a. **1 – D; 2 – B; 3 – A; 4 – C**

Greater Depth
9a. **A = 18cm; B = 18cm; C = 9cm;**
10a. **A = 90°; B = 45°; C = 45°; D = 90°; E = 135°**
11a. **False, side A is 7.5cm**
12a. **1 – E; 2 – A; 3 – B; 4 – D; 5 – C**

Varied Fluency
Lengths and Angles in Shapes

Developing
1b. **A = 6cm; B = 9cm; C = 6cm**
2b. **A = 270°; B = 90°**
3b. **False, angle A is 135°**
4a. **1 – B; 2 – A; 3 – D; 4 – C**

Expected
5b. **A = 18cm; B = 12cm; C = 6cm; D = 30cm**
6b. **A = 90°; B = 135°; C = 45°**
7b. **False, side A is 20cm**
8b. **1 – A; 2 – C; 3 – D; 4 – B**

Greater Depth
9b. **A = 40cm; B = 20cm; C = 8cm**
10b. **A = 45°; B = 135°; C = 90°; D = 135°; E = 45°**
11b. **False, angle A is 34°**
12b. **1 – B; 2 – A; 3 – C; 4 – E; 5 – D**

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