# 2.12-4 Geometry and Shape: Practice Set 4: Test Pack

GL ASSESSMENT GL · Calculators not allowed · about 15 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

**Answer ALL questions. Show all your working.**

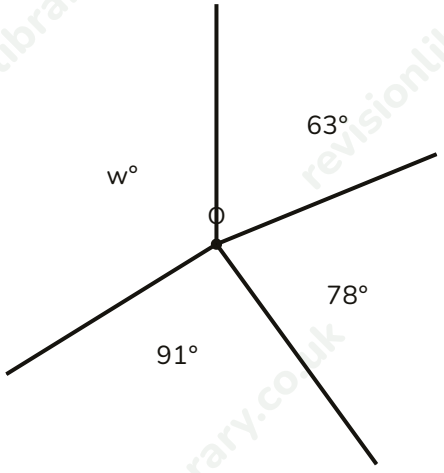
**1** An angle measures 155 degrees. Which type of angle is this?

- [ ] A) Acute
- [ ] B) Right angle
- [ ] C) Obtuse
- [ ] D) Reflex

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**2** Four angles meet at a point O: 63 degrees, 78 degrees, 91 degrees and w degrees. Calculate the value of w.

Diagram NOT accurately drawn




(not to scale)

**(2)**


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**3** Triangle J has vertices at (2, 1), (5, 1) and (2, 4). Triangle J is rotated 180 degrees about the origin to give triangle J'.

**(a)** Write down the coordinates of the image of (2, 1) after this rotation. **(1)**

**(b)** Write down the coordinates of the image of (5, 1) after this rotation. **(1)**

**(c)** Write down the coordinates of the image of (2, 4) after this rotation. **(1)**

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**4** State the number of lines of symmetry of each capital letter.

**(a)** The capital letter T. **(1)**

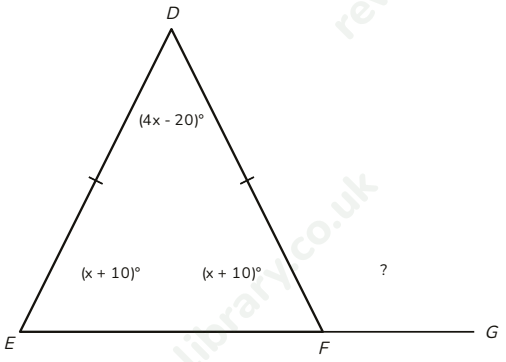
**(b)** The capital letter S. **(1)**

**(c)** The capital letter X. **(1)**


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**5** Triangle DEF is isosceles with DE = DF. The apex angle D = (4x - 20) degrees and each base angle (angle DEF and angle DFE) = (x + 10) degrees. Side EF is extended beyond F to a point G.

Diagram NOT accurately drawn




(not to scale)

**(a)** Form an equation using the fact that the angles in a triangle sum to 180 degrees, and solve it to find the value of x. **(2)**

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**(b)** Hence calculate the size of angle D and each base angle. **(2)**

.....

**(c)** Calculate the size of the exterior angle DFG. **(2)**

.....


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# Mark scheme · 2.12-4 Geometry and Shape: Practice Set 4: Test Pack

A correct answer earns full marks unless the question asks for working, a method, proof or explanation.

## Question 1

C cao **B1**

**Answer: C) Obtuse**

## Question 2

360 - 63 - 78 - 91 seen (angles around a point sum to 360 degrees) **M1**

128 degrees cao **A1**

**Answer: w = 128 degrees**

## Question 3

(a) (-2, -1) cao **B1**

**(a) Answer: (-2, -1)**

(b) (-5, -1) cao **B1**

**(b) Answer: (-5, -1)**

(c) (-2, -4) cao **B1**

**(c) Answer: (-2, -4)**

## Question 4

(a) 1 cao **B1**

**(a) Answer: 1**

(b) 0 cao **B1**

**(b) Answer: 0**

(c) 2 (accept 4 only where the working shows an X drawn with its strokes at right angles) **B1**

**(c) Answer: 2**

## Question 5

(a) (4x - 20) + 2(x + 10) = 180 seen, i.e. 6x = 180 **M1**

(a) x = 30 cao **A1**

**(a) Answer: x = 30**

(b) 100 degrees (angle D) cao (ft) **B1**

(b) 40 degrees (each base angle) cao (ft) **B1**

**(b) Answer: angle D = 100 degrees; base angles = 40 degrees each**

(c) 180 - their (b) base angle seen, or 100 + 40 (exterior angle = sum of the two opposite interior angles) (ft) **M1**

(c) 140 degrees cao (ft) **A1**

**(c) Answer: angle DFG = 140 degrees**


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