Geometry

Series E – Geometry

Contents

Series Author:

Nicola Herringer

Series E – Geometry

Page 1

1a

b

c

2a

b

c
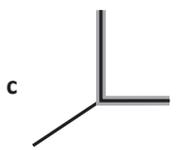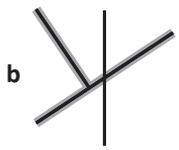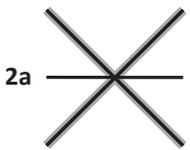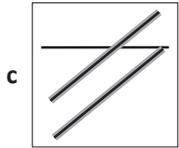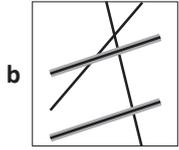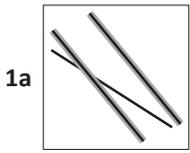
3 Answers will vary.
Possible answers:

Pages 2–3

1a obtuse

b acute

c right

d obtuse

e right

f acute

**2** Answers will vary.
Possible answers:

a

b

c
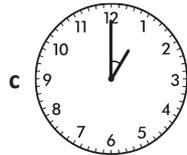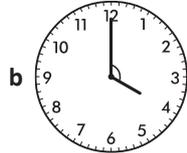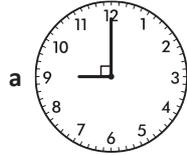
3a–c Answers will vary.

4a

b

c

Page 4

1
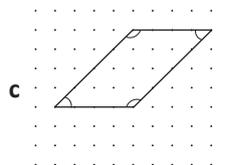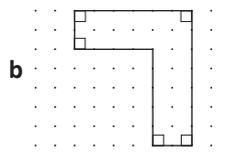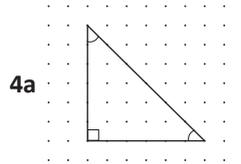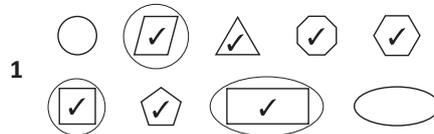
2a 4; 4

b 5; 5

c 4; 4

d 8; 8

e 6; 6

f 4; 4

g 4; 4

h 3; 3

3 square, rectangle, rhombus, trapezium

4 A polygon must have straight sides.

Page 5

1a isosceles

b equilateral

c scalene

d scalene

e equilateral

f isosceles

2 Answers will vary.

Pages 6–7

1 22

2a 3

b 3

c 2

d 11

e 11

3a square

b trapezium

c parallelogram

d rectangle

Page 8

1a yes; yes

b yes; yes

c no; yes

d no; yes

e no; yes

f no; yes

2
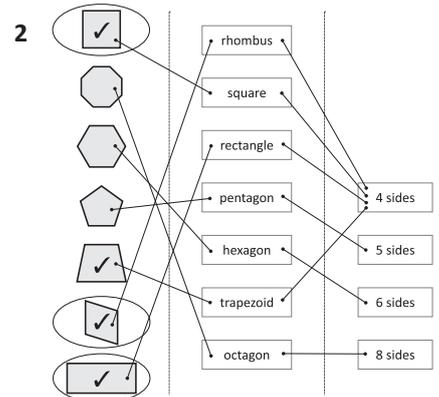
Series E – Geometry

Pages 9–10

1a hexagon

b hexagon

c heptagon

d hendecagon

e quadrilateral

f triangle

2 Answers will vary.

3a irregular

b irregular

c regular

d irregular

e regular

f regular

4a The angles are not all the same.

b The sides are not the same length.

Pages 11–12

Teacher check.

1a
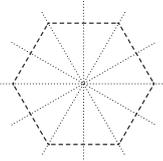
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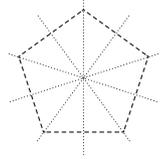
c
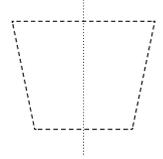
d
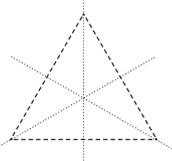
2
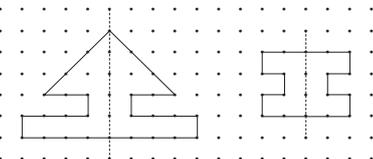
3a
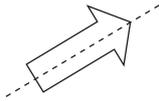
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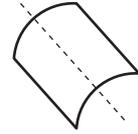
c

d
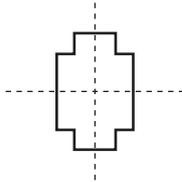
e
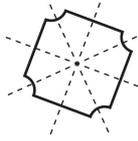
f
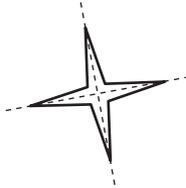
Page 13

Teacher check.

Page 14

**1a** rectangular prism (cuboid); 6; 8; 12

b pentagonal prism; 7; 10; 15

c hexagonal prism; 8; 12; 18

2a square pyramid; 5; 5; 8

b pentagonal pyramid; 6; 6; 10

c hexagonal pyramid; 7; 7; 12

3

Page 15

	Top view	Front view	Side view
1a			
b			
c			
d			
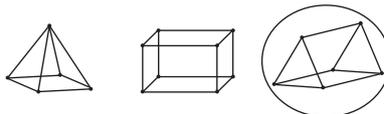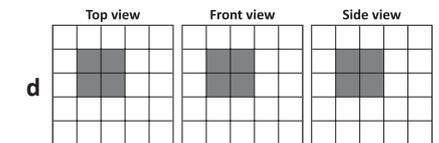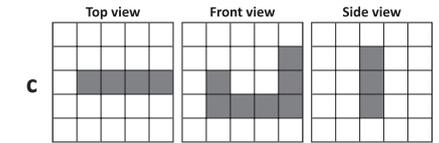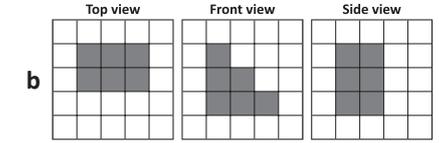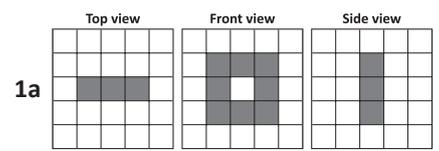
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What to do

a 8

b 12

c 6

d 1

Total: 27

Pages 17–18

1a right

b right

c right

d right

e left

f left

2 S I L E N C E

3

Rachel	Simon	Gina	Lyn
Josh	Megan	Karl	Liam
Andrew	Jo	Emily	Bec

Front

Series E – Geometry

4a D

 b E

 c A

 d B

 e C

1a–c
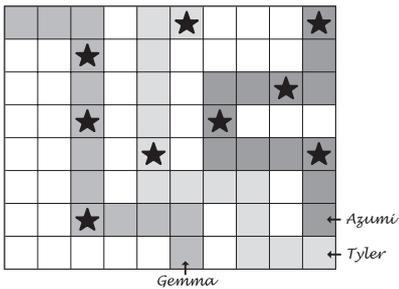
 d Gemma: 30;
    Azumi: 40;
    Tyler: 20

1a 1 up, 4 left

 b 4 down, 2 right

 c 2 down, 2 left

2
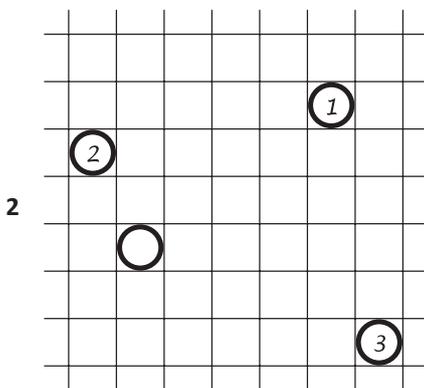
1a octagon

 b 27

 c pentagon

 d 14

 e It's a circle so it's not a polygon.

2a

Picture: Arrow

b
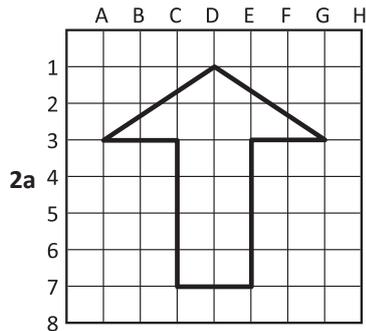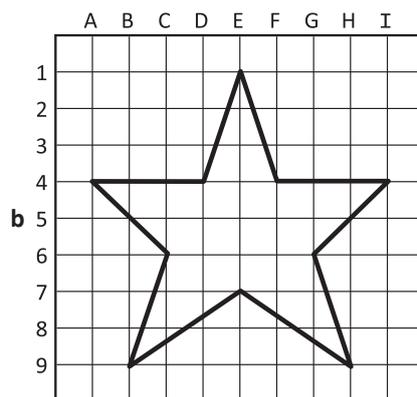
Picture: Star

3a (2, 1)

 b (6, 6)

 c (3, 4)

 d (0, 5)

4a–e

5a

b
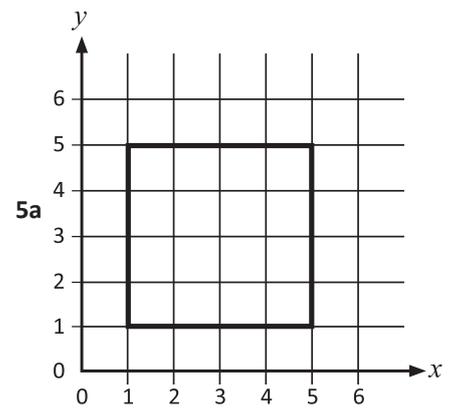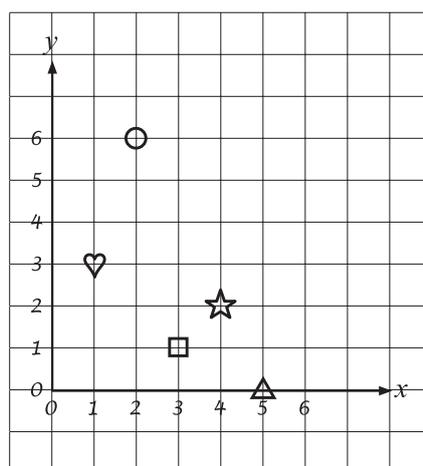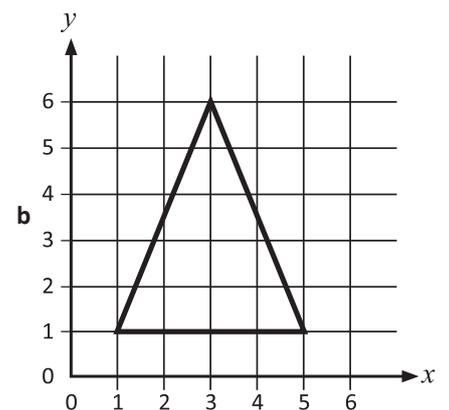
1a Newland Ln

 b Alt St

 c Lawson Ln

 d G5

 e Teacher check.

 f Sample answer:
    Go along Cuthbert St, cross over Alt
    St and Alt Ln. Turn left at Newland
    St. Cross over Birrell St, pass Kieran
    St on the left. Clemenston Park is
    on the left.
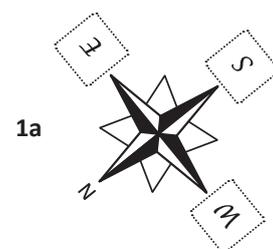
1a

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1b

c
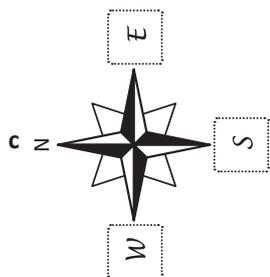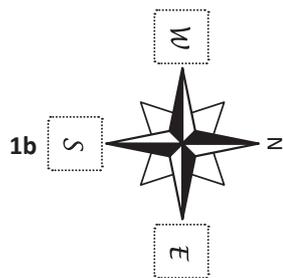
2a SE

  b NE

  c SW

  d NW

  e SE

Page 26
What to do
Observe students.

Lines, angles and shapes

Name _____

1 **Put a tick under the parallel lines and a cross under the perpendicular lines:**
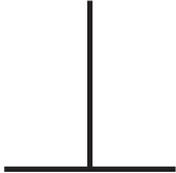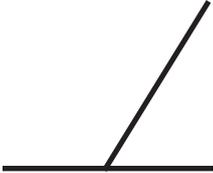
a   b   c   d

☐   ☐   ☐   ☐

2 **Draw one of each type of angle in each box:**
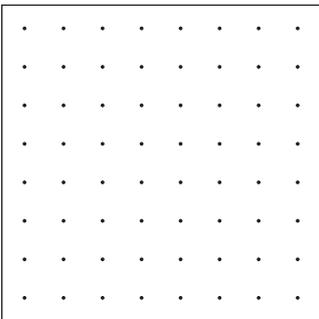
a   Acute angle   **b**   Obtuse angle   **c**   Right angle
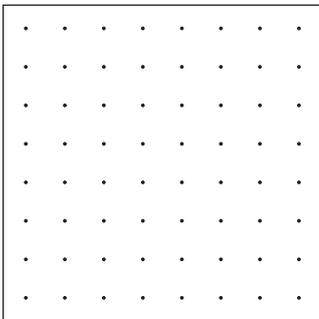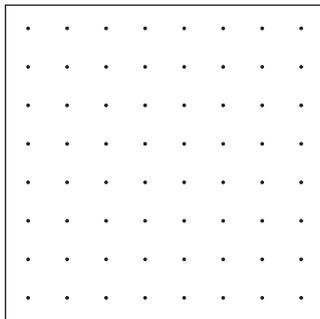
**3** **Draw all the lines of symmetry you can see in each shape:**
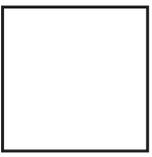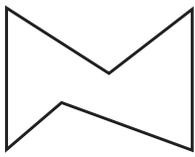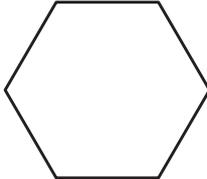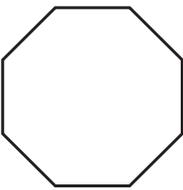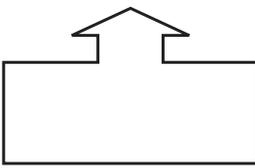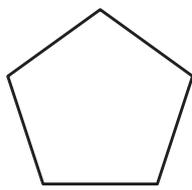
Skills	Not yet	Kind of	Got it
• Recognises parallel and perpendicular lines			
• Classifies angles as acute, obtuse or right angles			
• Identifies all lines of symmetry for a 2D shape			

Lines, angles and shapes

4 **Complete the following:**

   a Colour the quadrilaterals, tick the parallelograms.
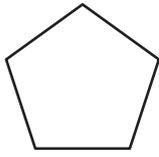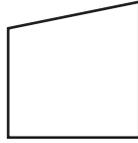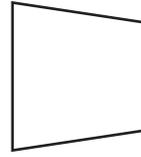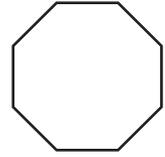
| 1 | 2 | 3 | 4 |

| 5 | 6 | 7 | 8 |

   b Which shape above is a hexagon?

   c Which shape is an octagon?

   d Write a capital T inside any shape that is a trapezium.

   e Write a capital R inside any shape that is a rhombus.

---

5 **Draw a picture or create a design below using pentagons, trapeziums and triangles:**

Skills	Not yet	Kind of	Got it
• Names 2D shapes: square, circle, rectangle, triangle, pentagon, hexagon, octagon, rhombus			
• Describes 2D shapes by the number of sides and angles			

Investigating 3D shapes

1 **Name each object and the number of faces:**

	a	b	c	d
Name				
Faces				
Edges				
Vertices				

2 **Mahlia made a 3D shape using toothpicks and plasticine. She used eight toothpicks and five pieces of plasticine. What shape did she make? Draw it on the dot paper.**
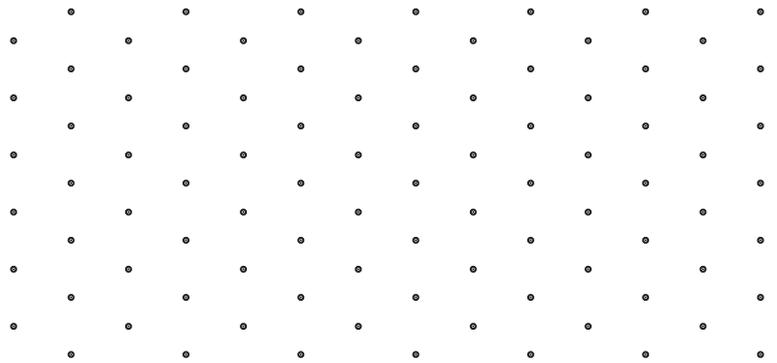
3 **Name the shape for each net:**

a _____

_____

b _____

_____

c _____

_____
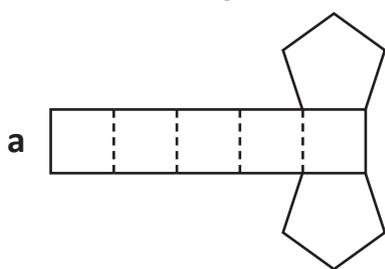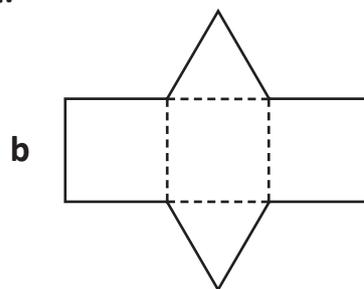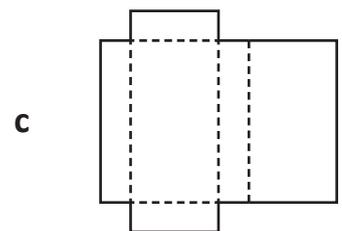
Skills	Not yet	Kind of	Got it
• Names prisms, pyramids, cylinders, cones and spheres			
• Makes skeletal models of 3D objects			
• Recognises the nets of common 3D objects			

Position

Name _____

1 Write the compass direction of the letters (N, S, E, W, NE, NW, SE, SW):
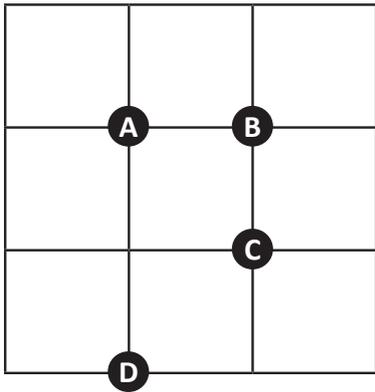
a   A is _____ of C.

b   B is _____ of C.

c   D is _____ of C.

d   A is _____ of B.

2 Draw the following on this picnic blanket:

a   A pizza in the bottom right hand corner.

b   A bowl of grapes to the left of the pizza.

c   A plate of cookies in the top left hand corner.

d   A line of ants moving diagonally across from the bottom left hand corner to the middle.

e   Two plates to the right of the cookies.

3 Write a set of directions for the mouse to get to the cheese:

_____

_____

_____

_____

_____

_____

Position
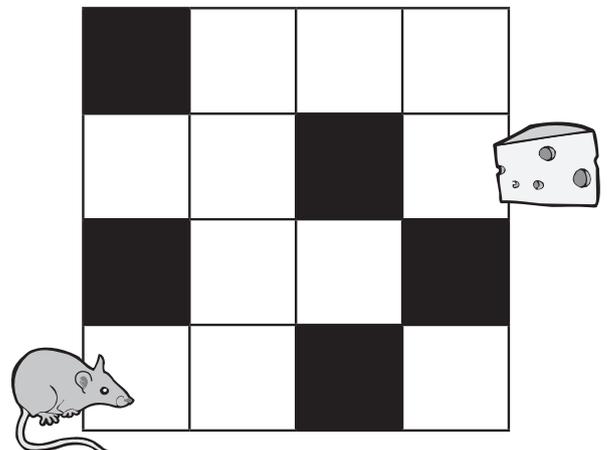
4 **Complete the features on this map:**

A

1

Key:

Cave

Forest

Lighthouse

_____

a Complete the labelling of the grid coordinates.

b The cave is at C4.

c The lighthouse is at B1.

d The forest is at F5.

e Draw a tent at D2. Add this to the key.

f What direction is the cave from the forest?

Skills	Not yet	Kind of	Got it
• Uses 8 compass directions to describe location			
• Describes the direction of one place or object relative to another			
• Describes a route on a basic map			
• Uses grid coordinates to describe position			
• Uses a key or legend to read a map			

Series E – Geometry – Student Progress Record

What went well: _____

_____

_____

_____

What I need to improve: _____

_____

_____

_____

✂ -

Series E – Geometry – Student Progress Record

What went well: _____

_____

_____

_____

What I need to improve: _____

_____

_____

_____

Series E – Geometry

ASSESSMENT ANSWERS

Pages 5–6

1a ✓

b ✗

c n/a

d ✓

2a–c Answers will vary.

3
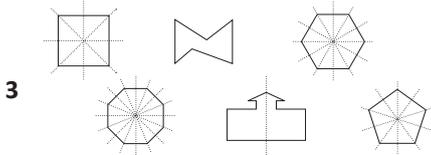
4a, d, e
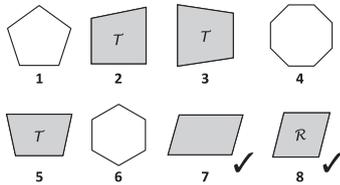
b 6

c 4

5 Answers will vary.

Page 7

1

Name	cone	hexagonal prism	pentagonal pyramid	sphere
Faces	2	8	6	1
Edges	1	18	10	0
Vertices	1	12	6	0

2 Answers will vary.
Sample answer:
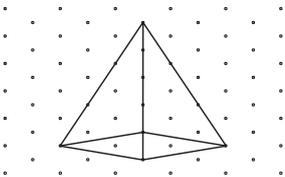
3a pentagonal prism

b triangular prism

c rectangular prism

Pages 8–9

1a NW

b N

c SW

d W

2a–e

3 Answers will vary.

4a–e

Key:
- Cave
- Forest
- Lighthouse
- Tent
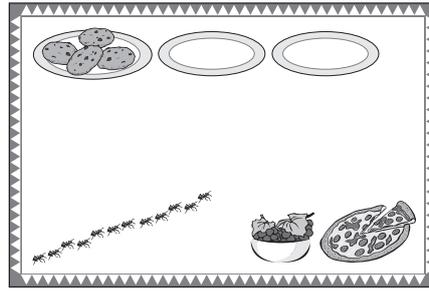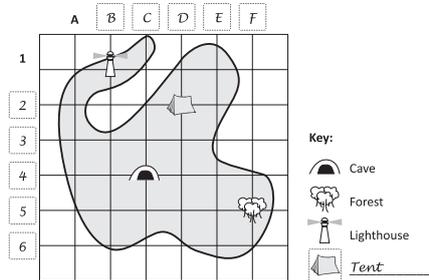
f NW

Series E – Geometry

| Topic	Reference	Strand	Substrand	Objective
Lines, Angles and Shapes	4G2a	Geometry	Properties of shapes	Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.
Lines, Angles and Shapes	4G2b	Geometry	Properties of shapes	Identify lines of symmetry in 2D shapes presented in different orientations.
Lines, Angles and Shapes	4G2c	Geometry	Properties of shapes	Complete a simple symmetric figure with respect to a specific line of symmetry.
Lines, Angles and Shapes	4G4	Geometry	Properties of shapes	Identify acute and obtuse angles and compare and order angles up to two right angles by size.
Investigating 3D Shapes	4G2a	Geometry	Properties of shapes	Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.
Position	4P2	Geometry	Position and direction	Describe movements between positions as translations of a given unit to the left/right and up/down.
Position	4P3a	Geometry	Position and direction	Describe positions on a 2D grid as coordinates in the first quadrant.
Position	4P3b	Geometry	Position and direction	Plot specified points and draw sides to complete a given polygon.