Varied Fluency
Step 6: Parallel and Perpendicular

National Curriculum Objectives:

Mathematics Year 3: (3G2) Identify horizontal and vertical lines and pairs of perpendicular and parallel lines

Differentiation:

Developing Questions to support identifying a set of 2 parallel and perpendicular lines, both discretely and within shapes. Lines are horizontal and vertical. Simple shapes used.

Expected Questions to support identifying a set of 2 parallel and perpendicular lines, both discretely and within shapes. Lines may be diagonal. Simple shapes used.
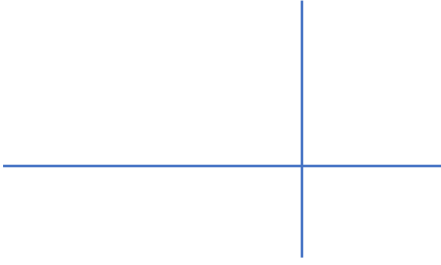
Greater Depth Questions to support identifying a set of more than 2 parallel and perpendicular lines, both discretely and within shapes. Lines may be diagonal. More complex shapes used.

More resources which follow the same small steps as White Rose.

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

Varied Fluency – Parallel and Perpendicular – Teaching Information

Varied Fluency – Parallel and Perpendicular

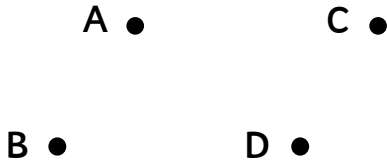**1a.** How could you show these lines are perpendicular?

1b. How could you show these lines are parallel?

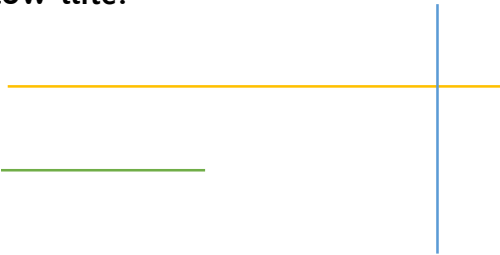**2a.** Sam joins to dots A→B and C→D. Will her lines be parallel, perpendicular or neither?

A •   C •

B •   D •

2b. Holly joins to dots A→B and B→D. Will his lines be parallel, perpendicular or neither?
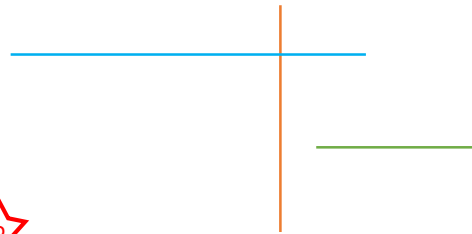
•   •

A   D

•   •

B   C

3a. Complete the sentences.
The yellow line is perpendicular to the _____ line.
The green line is _____ to the yellow line.

3b. Complete the sentences.
The blue line is _____ to the orange line.
The green line is parallel to the _____ line.
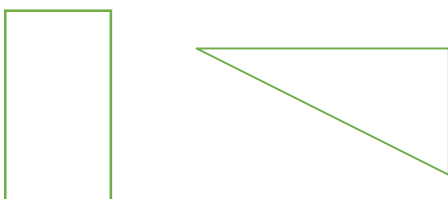
4a. True or false? This shape has parallel lines.

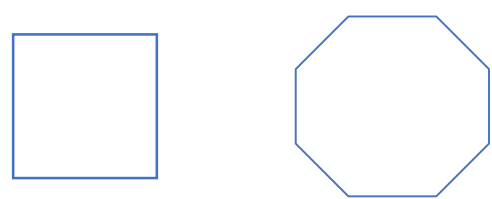**4a.** True or false? This shape has perpendicular lines.

5a. Identify a set of perpendicular lines in these shapes
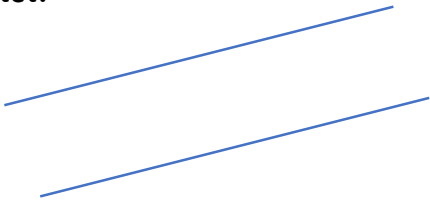
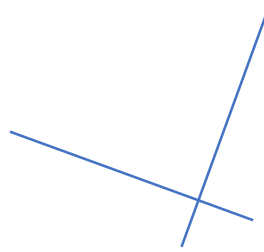**5b.** Identify a set of parallel lines in these shapes

Varied Fluency – Parallel and Perpendicular – Year 3 Developing

Varied Fluency – Parallel and Perpendicular

6a. How could you show these lines are parallel?

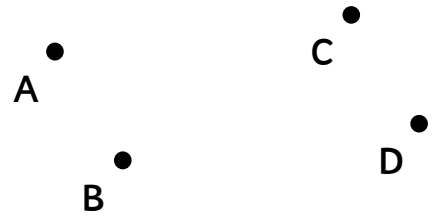**6b.** How could you show these lines are perpendicular?

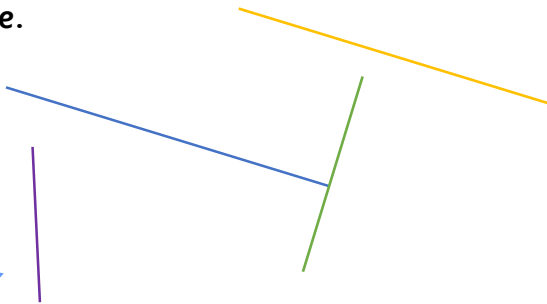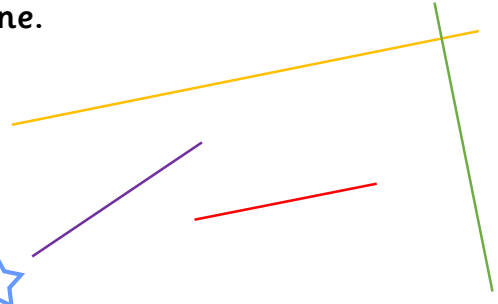**7a.** Katie joins to dots A→B and C→D. Will her lines be parallel, perpendicular or neither?

A
B
C
D

7b. Sufyan joins to dots A→B and B→C. Will his lines be parallel, perpendicular or neither?

A
B
C
D

8a. Complete the sentences
The yellow line is parallel to the _____ line.
The green line is _____ to the blue line.

8b. Complete the sentences
The yellow line is _____ to the green line.
The red line is parallel to the _____ line.

10a. True or false? A square has parallel lines.

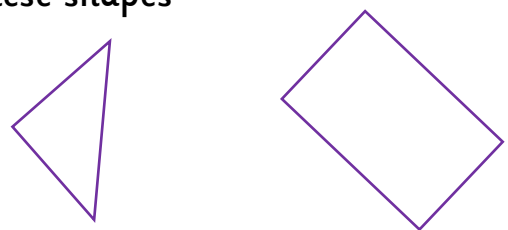**10a.** True or false? A regular hexagon has perpendicular lines.

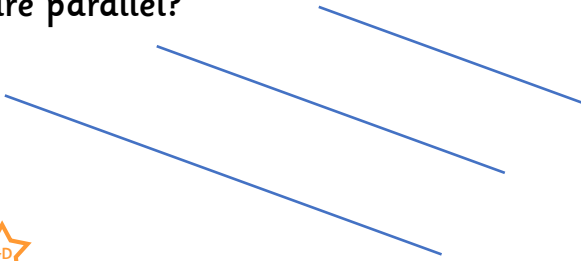**9a.** Identify a set of parallel lines in these shapes

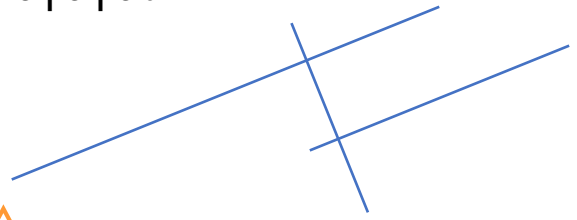**9b.** Identify a set of perpendicular lines in these shapes

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Varied Fluency – Parallel and Perpendicular

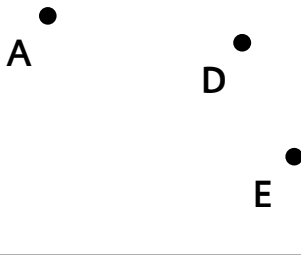**11a.** How could you show these lines are parallel?
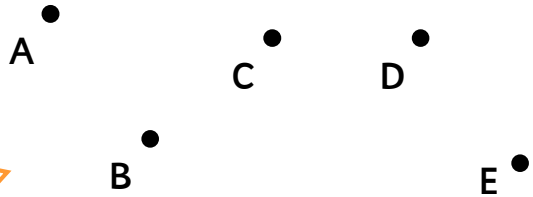
VF

11b. How could you show these lines are perpendicular?

VF

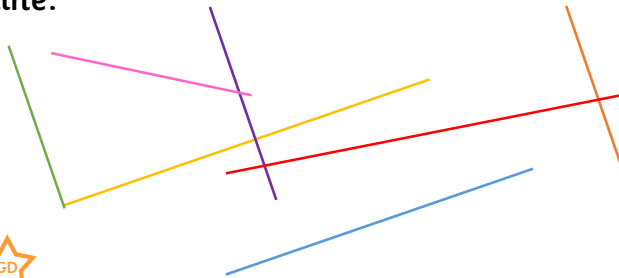**12a.** Xiomara joins the dots in alphabetical order. Which lines will be perpendicular?

A

D

B

E

C

VF

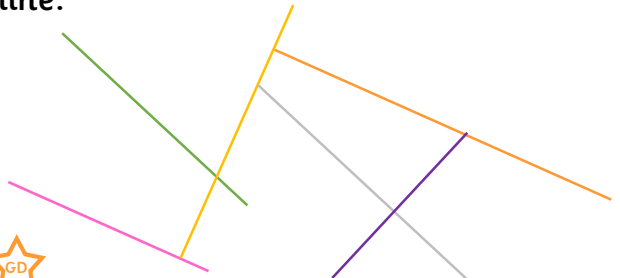**12b.** Jason joins the dots in alphabetical order. Which lines will be parallel?

A

C

D

B

E

VF

13a. Complete the sentences
The orange line is parallel to the _____ line and the _____ line.
The yellow line is _____ to the blue line and _____ to the green line.

VF

13b. Complete the sentences
The yellow line is perpendicular to the _____ line and the _____ line.
The green line is _____ to the purple line and _____ to the grey line.

VF

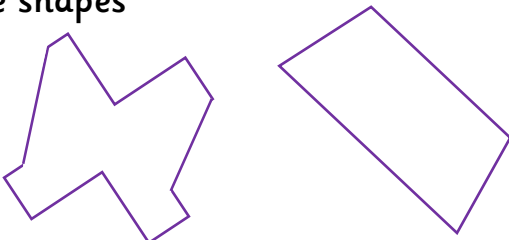**15a.** How many sets of perpendicular lines does a square have?

VF

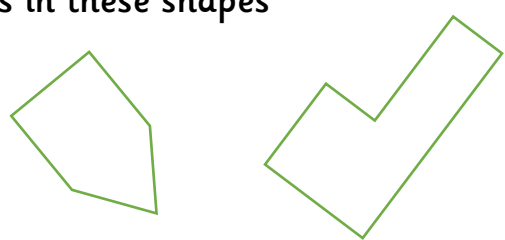**15a.** How many sets of parallel lines does a regular hexagon have?

VF

14a. Identify a set of parallel lines in these shapes

VF

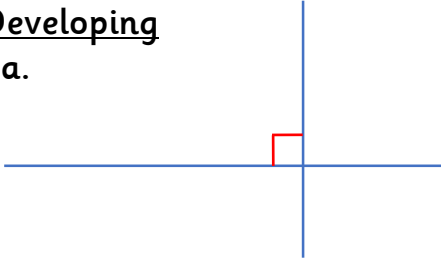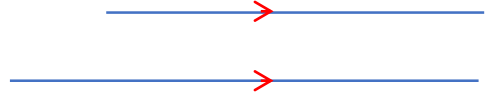**14b.** Identify a set of perpendicular lines in these shapes

VF

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Varied Fluency – Parallel and Perpendicular

Developing

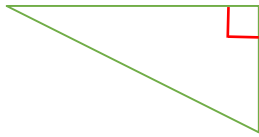**1a.**

1b.

2a. Parallel

2b. Neither

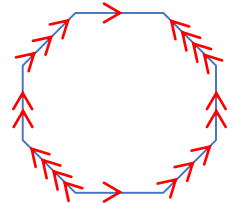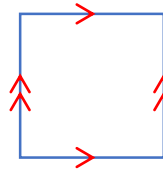**3a.** Blue, parallel

3b. Perpendicular, blue

4a. True, it has three sets of parallel lines.

4b. False, there is no right angle in the triangle.
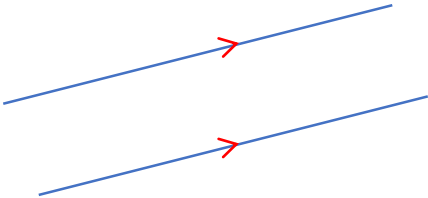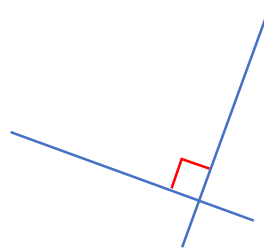
5a. One set labelled

5b. One set labelled

Expected

6a.
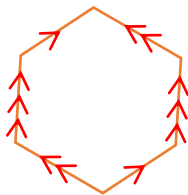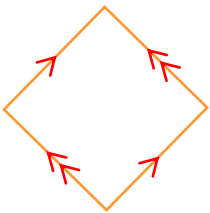
6b.

7a. Parallel

7b. Perpendicular

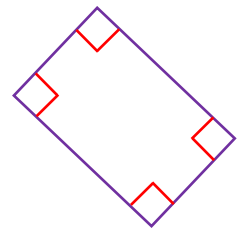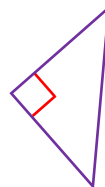**8a.** Blue, perpendicular

8b. Perpendicular, yellow

9a. True, it has two sets of parallel lines.

9b. False, a regular hexagon does not have any right angles so it has no perpendicular lines.
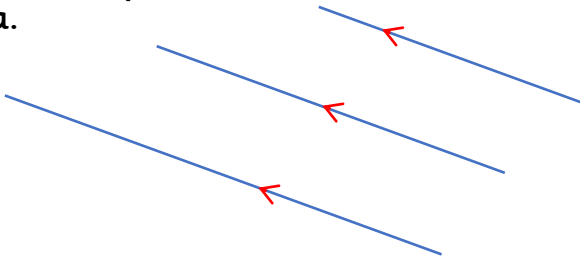
10a. One set labelled

10b. One set labelled

Varied Fluency – Parallel and Perpendicular ANSWERS

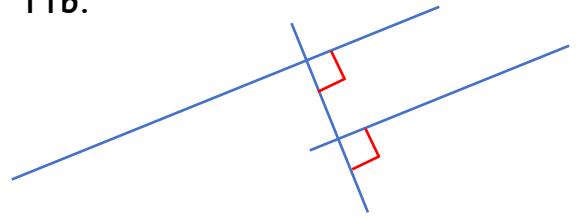# Varied Fluency – Parallel and Perpendicular

Greater Depth

11a.

11b.

12a. C→D and D→E
12b. A→B and D→E
13a. Purple, green
Parallel, perpendicular
13b. Pink, orange
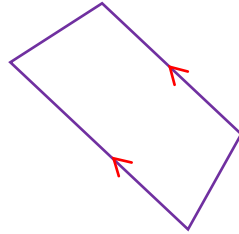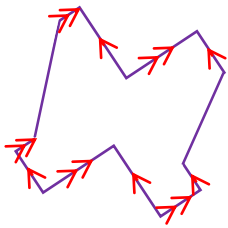Perpendicular, parallel
14a. 2
14b. 3
15a. One set labelled

15b. One set labelled