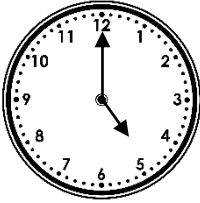# Horizontal and Vertical

1a. Richard is looking for vertical lines. This is the time now:

> At 5 o'clock, the minute hand is vertical.
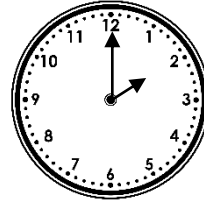
Is he correct? Explain how you know.

R

1b. Sonya is looking for horizontal lines. This is the time now:

> At 2 o'clock, the minute hand will be horizontal.

Is she correct? Explain how you know.

R

2a. Al and Sam are writing their names in capital letters. Which friend has more horizontal lines in the letters of their name?

AL   **SAM**

PS

2b. Bill and Ed are writing their names in capital letters. Which friend has more vertical lines in the letters of their name?

BILL   **ED**

PS

3a. Which of these flags is the odd one out? Explain your answer.

1   2

3

R

3b. Which of these flags is the odd one out? Explain your answer.

1   2

3

R

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Reasoning and Problem Solving – Horizontal and Vertical – Year 3 Developing

Horizontal and Vertical

4a. Danielle is looking for horizontal and vertical lines. This is the time now:

In 20 minutes, one hand will be horizontal and one hand will be vertical.

Is she correct? Explain how you know.

4b. Max is looking for horizontal and vertical lines. This is the time now:

In 5 minutes, one hand will be horizontal and one hand will be vertical.

Is he correct? Explain how you know.

5a. Blake and his friends are writing their names in capital letters. Which friend has more vertical lines in the letters of their name than Blake?

BLAKE　　**LIZ**

ALLI　　**HANK**

5b. Lara and her friends are writing their names in capital letters. Which friend has more horizontal lines in the letters of their name than Lara?
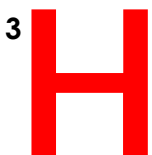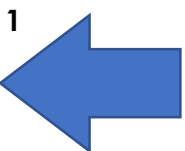
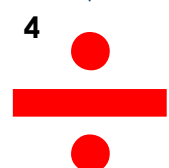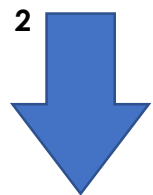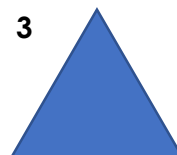**LARA**　　**OWEN**

FAZUL　　**MOLLY**

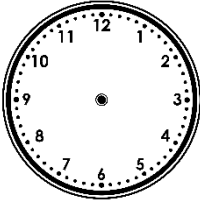**6a.** Considering the lines of symmetry, which shape is the odd one out? Explain your answer.

1　　2

3　　4

6b. Considering the lines of symmetry, which shape is the odd one out? Explain your answer.

1　　2

3　　4

Horizontal and Vertical

7a. Kirsty is working out when both of the hands on a clock are vertical.

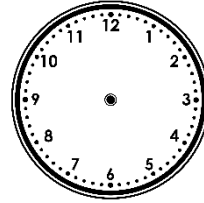In one full day, both hands on the clock will be vertical 4 times.

Is she correct? Explain how you know.

GD

R

7b. Aaron is working out when both of the hands on a clock are horizontal.

At quarter past 3 and quarter to 9, both hands on the clock will be horizontal.

Is he correct? Explain how you know.

GD

R

8a. Suzie has written her name in capital letters.

SUZIE

Using capital letters, write a name with more vertical lines in it than 'Suzie', then write a name with more horizontal lines in it than 'Suzie'.

GD

PS

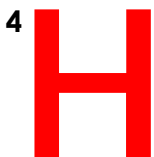**8b.** Olly has written his name in capital letters.

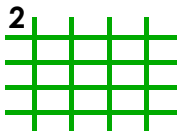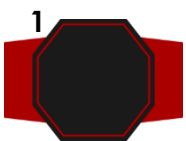## OLLY

Using capital letters, write a name with more vertical lines in it than 'Olly', then write a name with more horizontal lines in it than 'Olly'.
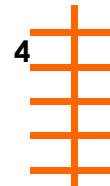
GD

PS

9a. Considering the lines of symmetry, which shape is the odd one out? Explain your answer.

1
2
3
4
5

GD

R

9b. Considering the lines of symmetry, which shape is the odd one out? Explain your answer.

1
2
3
4
5

GD

R

Reasoning and Problem Solving
Horizontal and Vertical

Developing
1a. Yes. The minute hand will be pointing at the 12 so it will be vertical.
2a. Al has 2 horizontal lines while Sam has 1 horizontal line.
3a. 3 is the odd one out as it only has 2 horizontal stripes, the others have 3.

Expected
4a. Yes. The minute hand will be pointing at the 12 so will be vertical and the hour hand will be pointing at the 9 so will be horizontal.
5a. Blake = 4; Liz = 2; Alli = 3; Hank = 5. Hank has more vertical lines than Blake.
6a. 1 is the odd one out. It is the only shape that does not have a vertical line of symmetry.

Greater Depth
7a. Kirsty is incorrect. Both hands are only ever vertical at 12 o'clock, so 2 times in one day. (At 12:30, the hour hand will be between 12 and 1).
8a. The name 'Suzie' (as shown) has 2 vertical lines and 5 horizontal lines in its letters. An example name with more vertical lines is: CLAIRE (4)
An example name with more horizontal lines is: ELLIE (8)
9a. 5 is the odd one out. It is the only shape that does not have a horizontal line of symmetry.

Reasoning and Problem Solving
Horizontal and Vertical

Developing
1b. No. The minute hand will be pointing at the 12 which is vertical not horizontal.
2b. Bill has 4 vertical lines while Ed has 2 vertical lines.
3b. 2 is the odd one out as it is the only one that doesn't have a vertical line.

Expected
4b. No. The minute hand will be pointing at the 6 so will be vertical but the hour hand will be pointing between the 3 and the 4 so will not be horizontal.
5b. Lara = 3; Owen = 3; Fazul = 6; Molly = 2. Fazul has more horizontal lines than Lara.
6b. 4 is the odd one out. It is the only shape with both a horizontal and a vertical line of symmetry.

Greater Depth
7b. Aaron is incorrect. At both of those times, the minute hand will be horizontal but the hour hand will not be.
8b. The name 'Olly' (as shown) has 3 vertical lines and 2 horizontal lines in its letters. An example name with more vertical lines is: BILLY (5)
An example name with more horizontal lines is: JAMES (4)
9b. 1 is the odd one out. It is the only shape that does not have a horizontal line of symmetry.