

Approach: Independent

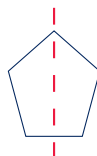
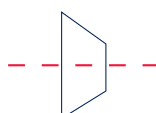
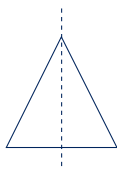
Focus: Finding symmetry

Resources: Ruler, answer booklet

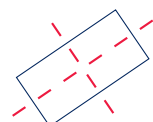
Questions / instructions:

The dotted line shows where the shape could be folded exactly in half.

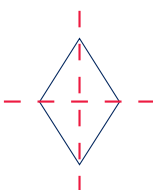
1. Draw dotted lines on these shapes to show where they could be folded exactly in half. You may use a ruler.

**YEAR 8 ONLY:**

2. These shapes can be folded in half in more than one way. Draw dotted lines on each shape to show **two** ways that it could be folded exactly in half. You may use a ruler.



both lines given
one line given
two correct plus at least one incorrect
one correct and one incorrect

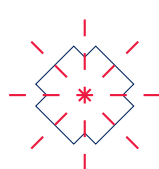


both lines given
one line given
two correct plus at least one incorrect
one correct and one incorrect

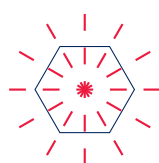
% response
2009 ('05)
year 4 year 8

86 (80)	95 (98)
80 (69)	97 (94)
97 (97)	97 (100)
93 (93)	95 (97)

3. Draw dotted lines on these shapes to show **all** the ways that they could be folded exactly in half. You may use a ruler.

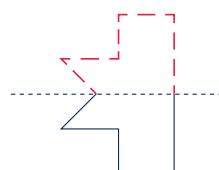


all correct lines given
two to three correct lines given
one correct line given
all correct plus at least one incorrect
some correct lines and at least one incorrect



all correct lines given
two to five correct lines given
one correct line given
all correct plus at least one incorrect
some correct lines and at least one incorrect

4. Draw the other half of this shape so the dotted line is where the shape could be folded exactly in half. You may use a ruler.



correct as shown
partially correct
(one or more lines correctly drawn)

% response
2009 ('05)
year 4 year 8

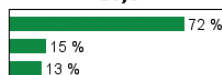
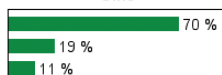
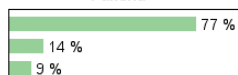
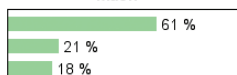
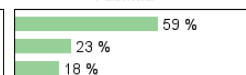
61 (70)	31 (27)	3 (2)	1 (0)	0 (1)	34 (41)	60 (56)	3 (2)	1 (0)	0 (0)	88 (94)	6 (3)
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Y4 Total Score: 4 71 (62)
3 17 (21)
0-2 12 (17)

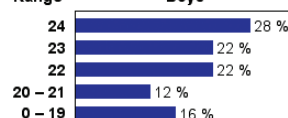
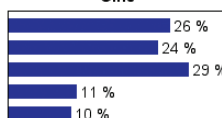
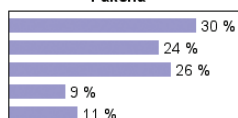
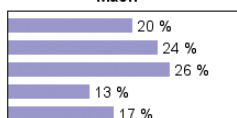
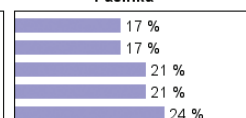
Y8 Total Score: 24 27 (33)
23 23 (28)
22 25 (24)
20-21 11 (9)
0-19 14 (6)

Subgroup Analyses:**Year 4**

Score Range

Boys**Girls****Pakeha****Māori****Pasifika****Year 8**

Score Range

Boys**Girls****Pakeha****Māori****Pasifika****Commentary:**

Performance levels were high, for both year 4 and year 8 students, where there were only one or two lines of symmetry, but dropped markedly for year 8 students where there were four to six lines of symmetry. Year 4 students scored slightly higher in 2009 than in 2005, while year 8 students scored slightly lower.