

Mark schemes

1.

Award **ONE** mark for an explanation which recognises that the two pie charts represent different numbers of children, e.g:

- '25 boys like milk chocolate best and more than 25 girls do'
- 'It's almost half of 100 girls and that's more than half of 50 boys'
- 'The pie chart shows that half of the boys chose milk chocolate and that's 25. About 45 girls chose milk chocolate because it's nearly half of the girls' pie chart'
- '25 boys chose milk chocolate, but (whole number in the range 40-49) girls chose milk chocolate'
- 'There are twice as many girls as boys so a quarter of the girls' pie chart is the same number as half of the boys' pie chart, and it's more than a quarter of the girls'
- $\frac{1}{2}$ of 50 boys chose milk = 25
 $\frac{1}{4}$ of 100 girls chose plain = 25
and from the girls' pie chart it is obvious that more chose milk than plain'
- 'There are twice as many girls as boys and the sizes of the pie charts show this and the area for boys who like milk chocolate is smaller than the area for girls who like it'.
Do not accept vague or incomplete explanations, e.g:
 - '100 is more than 50'
 - 'More girls took part than boys so more girls like milk chocolate'
 - 'The section for boys who like milk chocolate is smaller than the section for girls who like it'.

Commentary: The pie charts are presented using the mathematical convention that their areas are proportional to the numbers they represent, i.e. in this example the chart for girls has twice the area of the chart for boys.

[1]

2.

Award **TWO** marks for the correct answer of £12396.

If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, eg:

$$\begin{array}{r} \blacksquare \quad \text{£}8264 \\ \times \quad \quad \quad 4 \\ \hline \text{£}33056 \end{array}$$

OR

$$\begin{array}{r} \text{£}33056 \\ - \quad 8264 \\ \hline \text{£}24792 \end{array}$$

$$\text{£}24792 \div 2$$

OR

$$\blacksquare \quad \begin{array}{l} \text{£}8264 \div 2 = \text{£}4132 \\ \text{£}8264 + \text{£}4132 \end{array}$$

*Answer need not be obtained for the award of **ONE** mark*

Up to 2

[2]

3.

Indicates all four correctly, ie:



! Incomplete response

For 2 marks, do not accept any box left blank

! Other indication

Accept any unambiguous indication, eg:

- 'Y' for ticked

2

or

Indicates any three correctly

1

[2]

4.

32

2

or

160 seen (*the total children in the school*)

Do not accept 160° or 160%

OR

Shows or implies a complete, correct method, eg:

- $35 + 45 = 90$ (*error*)
 $100 - 90 = 10$
 $56 \div 35 = 1.6$
 $1.6 \times 10 = 16$
- 35% of children = 56
total children = $56 \times 100 \div 35 = 150$ (*error*)
Reception = $100 - (45 + 35)\% = 20\%$
Reception = 20% of 150
 $0.2 \times 150 = 40$ (*error*)
- 35% is 56
5% is 8
20% is $4 \times 8 = 24$ (*error*)

1

[2]