

Marks

7. Express as a single fraction

$$\frac{a}{b} + \frac{b}{a}, \quad a \neq 0, \quad b \neq 0.$$

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6. Three groups are booking a holiday. The first group consists of 6 adults and 2 children. The total cost of their holiday is £3148.

Let x pounds be the cost for an adult and y pounds be the cost for a child.

- (a) Write down an equation in x and y which satisfies the above information.

1

The second group books the same holiday for 5 adults and 3 children. The total cost of their holiday is £3022.

- (b) Write down a second equation in x and y which satisfies this information.

1

- (c) The third group books the same holiday for 2 adults and 4 children. The travel agent calculates that the total cost is £2056.

Has this group been overcharged?

Justify your answer.

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2. Multiply out the brackets and collect like terms.

$$(3x - 5)(x^2 + 2x - 6)$$

3

9. A formula used to calculate lighting efficiency is

$$E = \frac{I}{D^2}.$$

Change the subject of this formula to D .

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