Handout 4: Observing a lesson

Sharing gas costs

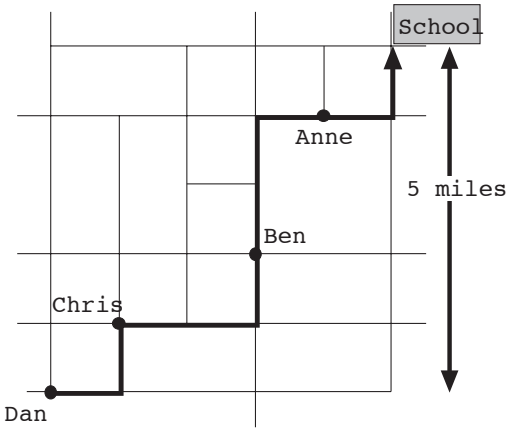
Each day Dan's mum drives him to school.

On the way, she picks up 3 of Dan's friends, Chris, Ben and Anne.

Each afternoon, she returns by the same route and drops them off at their homes.

At the end of a term, the four students decide to pay a sum of $100 towards the cost of gas.

How should they share out the cost?
Find some reasonable solutions and say which you think is best and why.



This map shows where each person lives and the route taken.

Two reasoned methods are shown below. Which do you consider better?

Method 1:

This is to share the cost in the proportion to the road distance people live from school:
2: 5: 8: 10. So:

Anne pays	$8
Ben pays	$20
Chris pays	$32
Dan pays	$40

Method 2:

Assume that, altogether, people will need to pay $10 per mile. Costs are shared out as follows:

	Anne	Ben	Chris	Dan
Last 2 miles $20	$5	$5	$5	$5
Next 3 miles $30		$10	$10	$10
Next 3 miles $30			$15	$15
First 2 miles $20				$20

Anne pays	$5
Ben pays	$15
Chris pays	$30
Dan pays	$50