



Problem of the Week

Problem B

Games People Play

Clive and Jill are putting their money together to buy a new GameStation VII. Each of them borrows \$200 from their parents to help cover the cost. In order to encourage their children to repay the money quickly, each of their parents are charging them an extra fee on the last day of each month when there is still money owed. Clive’s parents are charging him \$10 extra each month, and Jill’s parents are charging her \$12 extra each month.



- (a) Clive has decided to pay his parents \$50 on the first day of each month until his loan is repaid, and Jill is paying her parents \$60 on the first day of each month until her loan is repaid. Complete the given tables to determine how long they take to repay their loans.

For Clive:

| Month | Payment (\$) | Money Owed (\$) | Extra Fee (\$) |
|-------|--------------|-----------------------|----------------|
| 1 | 50 | $200 - 50 = 150$ | 10 |
| 2 | 50 | $150 + 10 - 50 = 110$ | 10 |
| 3 | | | |
| 4 | | | |
| 5 | | | |

For Jill:

| Month | Payment (\$) | Money Owed (\$) | Extra Fee (\$) |
|-------|--------------|----------------------|----------------|
| 1 | 60 | $200 - 60 = 140$ | 12 |
| 2 | 60 | $140 + 12 - 60 = 92$ | 12 |
| 3 | | | |
| 4 | | | |
| 5 | | | |

- (b) Who paid their parents more in total?
- (c) Is there a monthly payment for Clive which would pay off his loan at the same time as Jill?