

**Introductory Calculus Extended Piece of Work**  
**Due 21<sup>st</sup> February**  
**Validation Test 22nd February**

In a small town there are three taxi firms Andy's Arrows, Bert's Bombs and Cecil's Chariots. The three firms are very competitive and have the following hire costs. **There are never any cab rides greater than 30km.**

AA: \$4.50 flagfall and 60c/km

BB: \$7 flagfall and 45c/km

CC: \$2 flagfall and 80c/km.

Investigate which cab firm you would use according to the length of the journey, assuming you want the cheapest fare.

A fourth firm William's Wrecks tries to undercut the other three firms and makes the bold statement "The cheapest cab in town for all journeys of 30km or less".

Assuming their claim is correct and no company charges less for any journey under 30km, find the **greatest** flagfall charge and the **greatest** rate per km William could charge.

Find for each of the three other firms the most someone could save using William's Wrecks for a cab ride.