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| Name: | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | Date: *\_\_\_\_\_\_\_\_\_\_\_* |
| pact jpg1 | **Mathematics Essential Year 11**  **Practical Application 1, 2015**  **Topic – Buying a Car**  **In class component only** | | 50  = % |
| **Total Time:** | ***60*** *minutes* |  | |
| **Reading Time:** | *3**minutes* |
| **Working Time:** | *57minutes* |
| **Weighting:** | *12% of the year.* |
| **Equipment:** | *Scientific Calculator* | | |

You buy the car below and run it for a year, but what will it cost you?

**2014 Ford Focus LW MKII Trend**

$18,990 Drive Away



Complete the questions below. You must show all working out in order to obtain full marks.

1. **Paying for the car (8 marks: 2, 2, 2, 2)**

To keep it simple, you will have to get a bank loan for the car, paying in monthly instalments over a period of 4 years. You will be charged interest on this loan. Below is an example of how much this may cost:

|  |  |  |  |
| --- | --- | --- | --- |
| **Lender** | **Loan Amount** | **No of monthly instalments** | **Monthly repayment** |
| ANZ Bank | $18990 | 48 | $495 |
| Bendigo Bank | $18990 | 48 | $479 |
| Alliance Mutual | $18990 | 48 | $465 |

1. Calculate how much you will pay for the car if you borrow from the ANZ bank.
2. Calculate how much you will pay for the car if you borrow from the Bendigo bank.
3. Calculate how much you will pay for the car if you borrow from Alliance Mutual.
4. Which finance agency will you choose to finance your car with? Why?
5. **On Road Costs (6 marks: 2, 2, 2)**
6. Before you can pick up your car you must first **insure** it. Alliance Insurance is $63.40 per month. How much is this per year?
7. When you purchase a new car you are required to pay **stamp duty** to the Department of Transport. For this car it is $194.00. There is also a transfer fee of $16.40 plus a recording fee of $13.50. What is the total payable to The Department of Transport?
8. It is also a legal requirement that the car be registered. You have two options available:

6 months for $278, or 12 months for $530. Which option will you choose? Why?

1. **Maintenance (4 marks)**

During the year, different parts of your car will need replacing, this could happen at any given time of the year. Below is a set of scenarios to build into your running costs.

* After 3 months you are stopped by the police – 3 of your tyres are bald. Tyres are generally replaced in pairs – Firestone: $46.50 each
* After 14 weeks a headlight blows – replacement part S14.99
* After 6 months your front disc brakes need replacing – Cost $89.99 fitted.
* Every 6 months the car requires servicing at a cost of $179.

Calculate your car maintenance costs for a one year period?

1. **Fuel Costs (6 marks: 2, 2, 2)**

Your car tank holds around 40 litres of fuel and you can travel around 600 kilometres on a single tank of fuel.

1. If the price of fuel were to remain fixed at $1.34 per litre how much would it cost to fill the tank on your car?
2. On average you use a tank of fuel every two weeks. How many times will you need to fill your car over the course of one year?
3. If fuel costs remain constant at the above price for one year how much money would you spend on fuel?
4. How many kilometres would you travel over the course of one year?
5. **Total Cost of owning the car (15 marks)**

Complete the table below.

|  |  |  |  |
| --- | --- | --- | --- |
| **Expense** | **Amount over 1 year** | **Amount per month** | **Amount per week** |
| **Loan Payments** |  |  |  |
| **On road costs** |  |  |  |
| **Maintenance costs** |  |  |  |
| **Fuel Costs** |  |  |  |
| **Total** |  |  |  |

1. **Can you afford the car? (9 marks:2, 3, 1, 2, 1)**

You earn $940 a fortnight. You have the following weekly expenses.

* Rent $70
* Food $80
* Utilities $45

1. How much are your weekly expenses if you include the cost of buying and maintaining your car?
2. How much money would you have each week to spend on other things?
3. You plan on taking a holiday with friends to Bali at a cost of $790 for travel and accommodation. You would like to have $1200 spending money. How much will the trip cost?
4. How much will you need to put aside each week for your trip?
5. Can you still afford your car?