1.

```
SELECT COUNT(*)
FROM all_loans
GROUP BY custid;
```

2.

```
SELECT DISTINCT d2.custid
(SELECT d.custid,
        DATE_PART (‘day’, d.diff.time_diff ) AS time_diff_day
FROM
(SELECT custid,
        approvedate – LAG (payoffdate) OVER (partition BY custid ORDER BY approvedate) AS time_diff
        FROM all_loans) AS d
FROM diff) AS d2
WHERE d2.time_diff_day > 0;
```

3.

```
SELECT m.customer,
        SUM(m.payment)
FROM
(SELECT t.customer,
        t.payment,
        t.princ_payment,
        (t.pay_year –t. start_year)*12 + t.pay_month – t.start_month AS month_diff
FROM
 (SELECT al.custid AS customer,
        alh.amount_paid AS payment,
        alh.totprincpaid AS princ_payment,
        DATE_PART (‘year’, alh.eowdate) AS pay_year,
        DATE_PART (‘year’, al.approvedate) AS start_year,
        DATE_PART (‘month’, alh.eowdate) AS pay_month,
        DATE_PART (‘month’, al.approvedate) AS start_month
FROM all_loans al
JOIN all_loanhist alh ON al.loanid=alh.loanid
) AS t
WHERE (t.pay_year –t. start_year)*12 + t.pay_month – t.start_month <=6
)AS m
GROUP BY m.customer;
```

4.

```
SELECT m.customer,
        SUM(m.princ_payment)/SUM(m.payment)*100 AS princ_clct_ptg
FROM
(SELECT t.customer,
        t.payment,
        t.princ_payment,
        (t.pay_year –t. start_year)*12 + t.pay_month – t.start_month AS month_diff
FROM
 (SELECT al.custid AS customer,
        alh.amount_paid AS payment,
        alh.totprincpaid AS princ_payment,
        DATE_PART (‘year’, alh.eowdate) AS pay_year,
        DATE_PART (‘year’, al.approvedate) AS start_year,
        DATE_PART (‘month’, alh.eowdate) AS pay_month,
        DATE_PART (‘month’, al.approvedate) AS start_month
FROM all_loans al
JOIN all_loanhist alh ON al.loanid=alh.loanid
) AS t
WHERE (t.pay_year –t. start_year) *12 + t.pay_month – t.start_month <=6
) AS m
GROUP BY m.customer;
```

5.

```
SELECT
SUM(mc.unpaid_loans/tc.total_loans)/COUNT(DISTINCT mc.month)
FROM
(SELECT COUNT(DISTINCT alh.loanid) as unpaid_loans,
        AVG(EXTRACT(month FROM alh.eowdate)) AS month
FROM all_loanhist alh
--here I assume either 0 or NULL indicates the loan is not paid
WHERE amount_paid=0 OR amount_paid IS NULL
GROUP BY EXTRACT(month FROM alh.eowdate)
) AS mc

LEFT JOIN

(SELECT COUNT(al.loanid) as total_loans,
        AVG(EXTRACT(month FROM al.approvedate)) AS month
FROM all_loans al
GROUP BY EXTRACT(month FROM al.approvedate)
) AS tc

ON mc.month=tc.month;
```