Provided with a dataset Sales Case Study which indicates the daily trading information for a large retail store, aggregated. The data is only for one of the products sold at this store. Used the dataset, to develop metrics and derive subsequent insights. Initially data had to be sorted and filtered in a structured manner, date format had to be updated to make it easier to use the data.

```
CSSALES.PUBLIC V
                        Settings
 1
      SELECT * from CSSALES.PUBLIC.CSDATASET;
3
      --- UPDATE CSDATASET SET DATE = REPLACE (DATE, '/', '/');
      UPDATE CSDATASET
      SET DATE = REPLACE(DATE, '/', '-');
      --- CREATING UPDATED TABLE.
8
      CREATE OR REPLACE TABLE SALES AS (
      SELECT TO_DATE(DATE, 'DD-MM-YYYY') AS DATE_, *
10
      FROM CSDATASET);
11
12
      SELECT* FROM SALES;
13
14
      ALTER TABLE SALES DROP COLUMN date;
15
16
      --- MAKING COST OF SALES TO HAVE 2 DECIMAL POINTS
17
18
      SELECT TRUNCATE (SALES, 2) AS SALES,
19
      TRUNCATE (COST_OF_SALES, 2) AS COSTOFSALE,
20
      FROM SALES;
21
```

	© DATE_	A MONTH_NAME	A DAY	# SALES	# COST_OF_SALES	# QUANTITY_SOLD	# PRICI# SALES	# COST_OF_SALES	# QUANTITY_SOLD	# PRICE_PER_UNIT	# GROSS_PROFIT
1	2013-12-30	Dec 2013	Mon	223937.96	230079.62	6827	223937.96	230079.62	6827	32.80	-6141.66
2	2013-12-31	Dec 2013	Tue	300345.48	306986.12	9268	300345.48	306986.12	9268	32.41	-6640.64
ă	2014-01-01	Jan 2014	Wed	86782.46	87986.31	2678	86782.46	87986.31	2678	32.41	-1203.85
3	2014-01-01	Jan 2014	vved	00/02.40	6/980.31	2078	200173.11	202881.17	6175	32.42	-2708.06
4	2014-01-02	Jan 2014	Thu	200173.11	202881.17	6175	326906.07	333806.29	10084	32.42	-6900.22
5	2014-01-03	Jan 2014	Fri	326906.07	333806.29	10084	307043.93	313652.34	9470	32.42	-6608.41
6	2014-01-04	Jan 2014	Sat	307043.93	313652.34	9470	179188.88	183083.28	5524	32.44	-3894.40
7	2014-01-05	Jan 2014	Sun	179188.88	183083.28	5524	306351.95	313446.06	9448	32.43	-7094.11

1. The daily sales price per unit?

```
--- PRICE PER UNIT
SELECT ROUND (SALES/QUANTITY_SOLD, 2) AS PRICE_PER_UNIT
FROM SALES;
CREATE OR REPLACE TABLE SALES AS
    (SELECT DATE_,
    TO_CHAR(DATE_, 'MON YYYY')MONTH_NAME,
    TO_CHAR(DATE_, 'DY') AS DAY ,
    TRUNCATE (SALES, 2) AS SALES,
    TRUNCATE (COST_OF_SALES, 2) COST_OF_SALES ,
    QUANTITY_SOLD, ROUND(SALES/QUANTITY_SOLD, 2) AS PRICE_PER_UNIT,
    (SALES-COST_OF_SALES) GROSS_PROFIT
FROM SALES);
SELECT * FROM SALES;
--- AVERAGE UNIT SALE PRICE
SELECT SUM(SALES) AS TOTAL_SALES
FROM SALES;
SELECT SUM(QUANTITY_SOLD) AS TOTAL_UNIT_SOLD
FROM SALES:
```

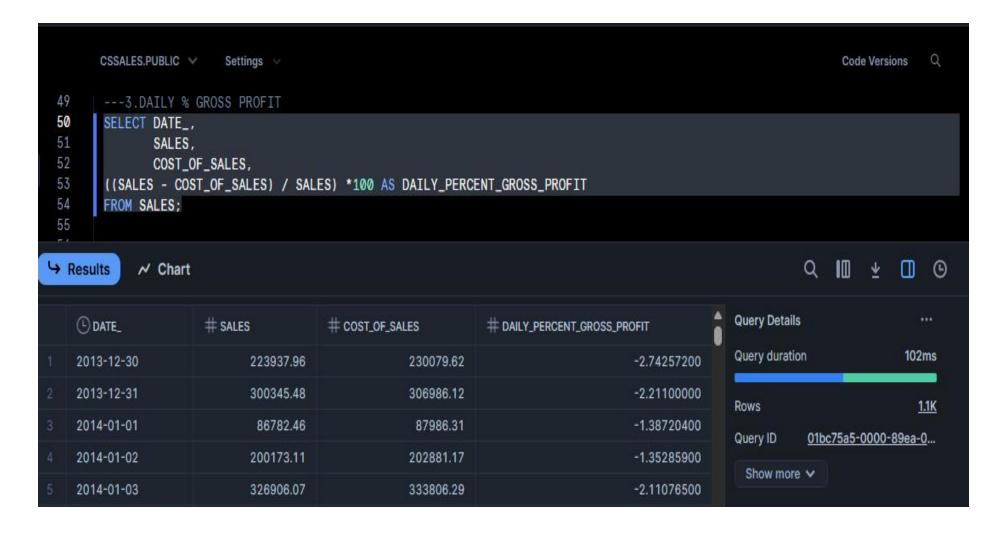
## 

① DATE_	A MONTH_NAME	A DAY	# SALES	# COST_OF_SALES	# QUANTITY_SOLD	# PRICE
2013-12-30	Dec 2013	Mon	223937.96	230079.62	6827	
2013-12-31	Dec 2013	Tue	300345.48	306986.12	9268	
2014-01-01	Jan 2014	Wed	86782.46	87986.31	2678	
2014-01-02	Jan 2014	Thu	200173.11	202881.17	6175	
2014-01-03	Jan 2014	Fri	326906.07	333806.29	10084	
2014-01-04	Jan 2014	Sat	307043.93	313652.34	9470	
2014-01-05	Jan 2014	Sun	179188.88	183083.28	5524	<b>v</b>

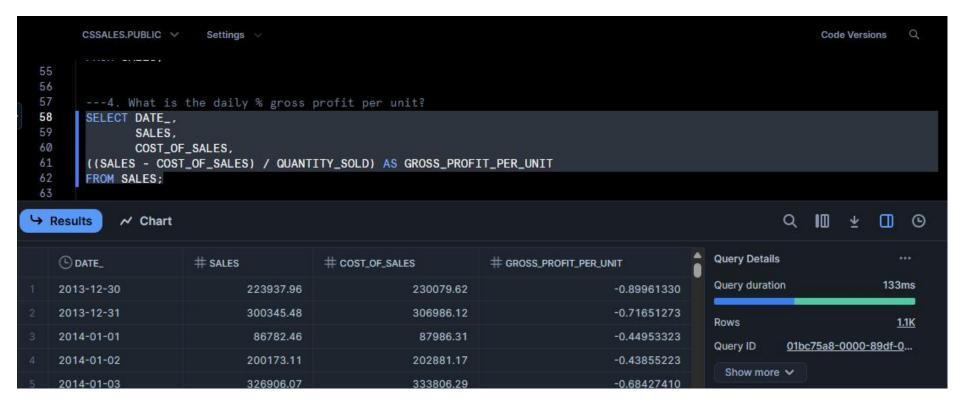
2. What is the average unit sales price of this product?



## 3. What is the daily % gross profit?



## 4. What is the daily % gross profit per unit?



5. Pick any 3 periods during which this product was on promotion/special:



```
Settings V
       CSSALES.PUBLIC V
                                                                                                                 Code Versions
107
       ---ELASTIC OF DEMAND COEFFICIENT
108
109
       SELECT * FROM SALES;
110
111
       CREATE OR REPLACE TEMPORARY TABLE
112
       SELECT DATE_,
113
              QUANTITY_SOLD,
114
               SALES,
115
          (PERCENTAGE_Change_Quantity / PERCENTAGE_Change_SALES) AS ELASTIC_OF_DEMAND
116
       FROM SALES;
117
118
       ---Price_Change_Percent < -10: Unit sale price dropped by more than 10%.
119
       ----Quantity_Change_Percent > 10: Quantity sold increased by more than 10%.
120
       ----Rows meeting either condition might indicate a promotion or special.
121
       WITH UNIT_DATA AS (
122
           SELECT
123
               DATE_,
124
               SALES,
125
               QUANTITY_SOLD,
126
               SALES / QUANTITY_SOLD AS Unit_Sale_Price
127
           FROM SALES
128
       ),
```

```
CSSALES.PUBLIC V
                        Settings
                                                                                                                Code Versions
129
       price_changes AS (
130
           SELECT
131
               curr.DATE_,
132
               curr.UNIT_SALE_PRICE,
133
               prev.Unit_Sale_Price AS Prev_UNIT_SALE_PRICE,
134
               curr.QUANTITY_SOLD,
135
               prev.QUANTITY_SOLD AS Prev_QUANTITY_SOLD,
136
               ((curr.UNIT_Sale_PRICE - prev.UNIT_SALE_PRICE) / prev.UNIT_SALE_PRICE) * 100 AS Price_Change_Percent,
137
               ((curr.Quantity_Sold - prev.Quantity_Sold) / prev.Quantity_Sold) * 100 AS Quantity_Change_Percent
138
           FROM unit_data curr
139
           JOIN unit_data prev
140
             ON curr.DATE_ = DATEADD(DAY, 1, prev.DATE_)
       SELECT *
142
143
       FROM price_changes
144
       WHERE Price_Change_Percent < -10 OR Quantity_Change_Percent > 10;
145
146
       ---don't need explicit "specials" column-patterns in unit price and quantity sold reveal it.
147
       -- "Possible Special": Unit price is more than 10% below average, indicating a possible discount.
148
149
       You can adjust the 0.9 threshold to be more or less sensitive.
150
       WITH base AS (
151
         SELECT
                                                                                               Activate Windows
           Date_,
```

Date	DIFFERENCE % CHANGE= NEW- OLD/OLD	% CHANGE IN QTY	DIFF % CHANGE= NEW-OLD/OLD	% CHANGE IN PRICE	ELASTIC OF DEMAND	INELASTIC OR ELATIC
8/28/2014	-509	-5.713323605	-16646.0839	-6.059461746	0.942876421	INELASTIC
8/29/2014	10917	129.9642857	335941.0438	130.1763205	0.998371172	INELASTIC
8/30/2014	3993	20.67091163	123089.4996	20.72188634	0.997540054	INELASTIC
8/31/2014	-11664	-50.03861004	-358925.7165	-50.05262332	0.999720029	INELASTIC
9/1/2014	7720	66.28885454	236782.6386	66.10882541	1.002723224	ELASTIC
9/2/2014	-4075	-21.04203243	-125483.6939	-21.09133999	0.997662189	INELASTIC
9/3/2014	-191	-1.249100778	-5402.1417	-1.150689582	1.08552367	ELASTIC
9/4/2014	-4936	-32.68874172	-151755.8453	-32.70122287	0.999618328	INELASTIC