

Midterm Review - Units 3 & 4

Find the final price of the items.

- 1) Original Price: \$35.98
Sales Tax: 8.1%

$$\begin{aligned} \$35.98 \times .081 &= \$2.91 \quad \text{SALES TAX} \\ \$35.98 + \$2.91 &= \boxed{\$38.89} \end{aligned}$$

- 2) Original Price: \$247.15
Sales Tax: 4.9%

$$\begin{aligned} \$247.15 \times .049 &= \$12.11 \quad \text{SALES TAX} \\ \$247.15 + \$12.11 &= \boxed{\$259.26} \end{aligned}$$

Find the ending balance for the credit card statements.

- 3) On your most recent credit card statement, you have a balance of \$247 and make a payment of \$20. If the interest rate is 4.5%, what is your new balance?

$$\begin{aligned} \$247 - \$20 &= \$227 \quad \text{REMAINDER} \\ .045 \times \$227 &= \$10.22 \quad \text{INTEREST} \\ \$227 + \$10.22 &= \boxed{\$237.22} \end{aligned}$$

- 4) On your most recent credit card statement, you have a balance of \$857 and make a payment of \$15. If the interest rate is 5.1%, what is your new balance?

$$\begin{aligned} \$857 - \$15 &= \$842 \\ .051 \times \$842 &= \$42.94 \\ \$842 + \$42.94 &= \boxed{\$884.94} \end{aligned}$$

- 5) On your most recent credit card statement, you have a balance of \$1,236 and make a payment of \$95. If the interest rate is 3.7%, what is your new balance?

$$\begin{aligned} \$1236 - \$95 &= \$1141 \\ .037 \times \$1141 &= \$42.22 \\ \$1141 + \$42.22 &= \boxed{\$1183.22} \end{aligned}$$

- 6) On your most recent credit card statement, you have a balance of \$894 and make a payment of \$32. If the interest rate is 4.1%, what is your new balance?

$$\begin{aligned} \$894 - \$32 &= \$862 \\ .041 \times \$862 &= \$35.34 \\ \$862 + \$35.34 &= \boxed{\$897.34} \end{aligned}$$

Find the remaining payment amount due for each layaway plan.

- 7) You are using a layaway plan to purchase an item. The original price of the item is \$850 and requires a 15% deposit. If the remaining balance will be paid over the course of 4 equal payments, what would be each payment amount?

$$\begin{aligned} .15 \times \$850 &= \$127.50 \quad \text{DEPOSIT} \\ \$850 - \$127.50 &= \$722.50 \quad \text{BALANCE} \\ \$722.50 \div 4 &= \boxed{\$180.63} \end{aligned}$$

- 8) You are using a layaway plan to purchase an item. The original price of the item is \$975 and requires a 10% deposit. If the remaining balance will be paid over the course of 4 equal payments, what would be each payment amount?

$$\begin{aligned} .10 \times \$975 &= \$97.50 \quad \text{DEPOSIT} \\ \$975 - \$97.50 &= \$877.50 \quad \text{BALANCE} \\ \$877.50 \div 4 &= \boxed{\$219.38} \end{aligned}$$

9) You are using a layaway plan to purchase an item. The original price of the item is \$1200 and requires a 12% deposit. If the remaining balance will be paid over the course of 4 equal payments, what would be each payment amount?

$$\begin{aligned}
 & 12\% \times \$1200 = \$144 \\
 & \$1200 - \$144 = \$1056 \\
 & \$1056 \div 4 = \$264
 \end{aligned}$$

10) You are using a layaway plan to purchase an item. The original price of the item is \$2230 and requires a 17% deposit. If the remaining balance will be paid over the course of 4 equal payments, what would be each payment amount?

$$\begin{aligned}
 & 17\% \times \$2230 = \$379.10 \\
 & \$2230 - \$379.10 = \$1850.90 \\
 & \$1850.90 \div 4 = \$462.73
 \end{aligned}$$

For questions #11-14:

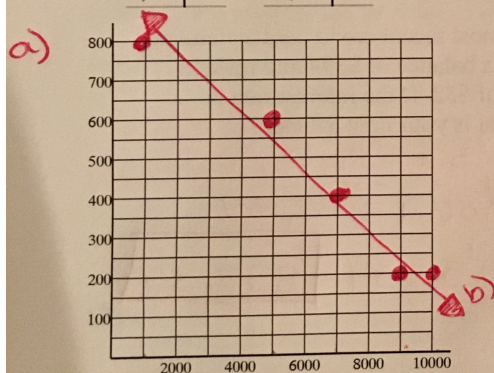
a) Graph a scatter plot of the given data.

b) Sketch a line of best fit.

c) Identify is the type of correlation for the data (positive, negative, no correlation)

11)

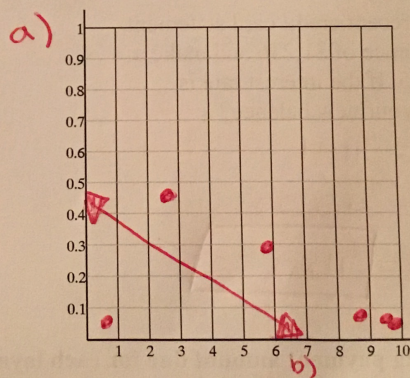
| X | Y | X | Y |
|-------|-----|--------|-----|
| 7,000 | 400 | 10,000 | 200 |
| 9,000 | 200 | 5,000 | 600 |
| 1,000 | 800 | 9,000 | 200 |



c) NEGATIVE CORRELATION

12)

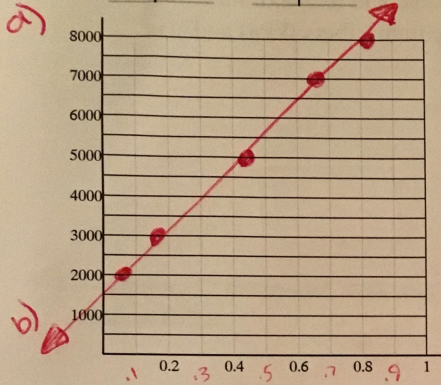
| X | Y | X | Y |
|-----|------|-----|------|
| 5.9 | 0.3 | 0.7 | 0.55 |
| 9.4 | 0.07 | 2.8 | 0.48 |
| 8.6 | 0.09 | 9.9 | 0.06 |



c) NEGATIVE CORRELATION

13)

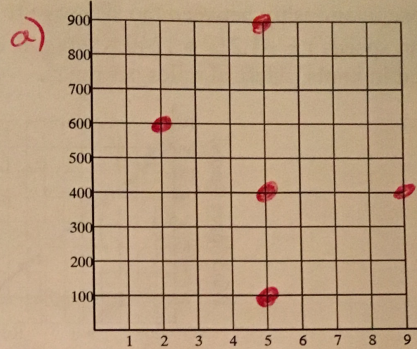
| X | Y | X | Y |
|------|-------|------|-------|
| 0.67 | 7,000 | 0.45 | 5,000 |
| 0.81 | 8,000 | 0.18 | 3,000 |
| 0.08 | 2,000 | 0.48 | 5,000 |



c) POSITIVE CORRELATION

14)

| X | Y | X | Y | X | Y |
|---|-----|---|-----|---|-----|
| 5 | 100 | 9 | 400 | 5 | 900 |
| 2 | 600 | 3 | 600 | 5 | 400 |
| 4 | 400 | 3 | 600 | 8 | 400 |
| 5 | 100 | | | | |



b) NO LINE OF BEST FIT

c) NO CORRELATION

For the given r -values below, state if the correlation is a strong positive, strong negative, weak positive, weak negative, or if the r -value is not possible.

15) $r = -0.92$

STRONG NEGATIVE

16) $r = -0.31$

WEAK NEGATIVE

17) $r = 1.63$

NOT POSSIBLE

18) $r = 0.89$

STRONG POSITIVE

19) $r = -2.01$

NOT POSSIBLE

20) $r = 0.27$

WEAK POSITIVE