

Math 115: Elementary Algebra
Working with Summary Phrases
Supplemental Exercises

You are a manager of a local Walmart. In effort to increase profits and productivity, you've asked your employees to help keep certain data about customers on a random day.

Variable name	Definition	Units	Value
M	Number of male customers today	Customer	340 customers
F	Number of female customers today	Customer	503 customers
E	Number of employees on duty today	Employee	82 employees
S	Average cost (salary) of an employee today	Dollars/employee	\$96/employee
A_M	Average amount spent by a male customer	Dollars/customer	\$24/customer
A_F	Average amount spent by a female customer	Dollars/customer	\$18/customer
T_M	Amount of time spent in the store by a male customer	Minutes/customer	14 minutes/customer
T_F	Amount of time spent in the store by a female customer	Minutes/customer	33 minutes/customer
I_M	Average number of items bought by a male customer	Items/customer	3 items/customer
I_F	Average number of items bought by a female customer	Items/customer	14 items/customer

1. Give a summary phrase for $M + F$. What is the numerical value of $M + F$?
2. What are the units of $E/(M + F)$? Now that you know the units, give a summary phrase for $E/(M + F)$. What is the numerical value of this quantity? If you were the store manager, how could this quantity be of use to you?
3. Write an algebraic expression that goes with the summary phrase "Amount of money spent by the male customers". Find the numerical value of your expression.
4. Write an algebraic expression that goes with the summary phrase "Amount of money spent by the female customers". Find the numerical value of your expression.

5. What are the units of MT_M . Give a summary phrase for MT_M . What is the numerical value of this quantity?
6. Write an algebraic expression that goes with the summary phrase "Amount of money spent on employee salaries today". Find the numerical value.
7. What are the units of A_M/T_M ? Write a summary phrase for A_M/T_M . What is the numerical value?
8. What are the units of $MA_M + FA_F$? Write a summary phrase for this expression. What is the numerical value?
9. What are the units of $\frac{MI_M + FI_F}{MT_M + FT_F}$? Write a summary phrase for this expression. What is the numerical value?
10. Write an algebraic expression that goes with the summary phrase "Amount of money spent by a man per minute". Find the numerical value.
11. Write an algebraic expression that goes with the summary phrase "Amount of money spent by a woman per minute". Find the numerical value.
12. If you were the store manager, would you want to get additional men or women into your store? What did you base this decision on?
13. Write an algebraic expression that goes with the summary phrase "Amount of customer time per employee". Find the numerical value. Does this number seem high or low to you? Would you consider hiring or firing employees?
14. Come up with one more meaningful algebraic expression. Give a summary phrase and numerical value for each.