

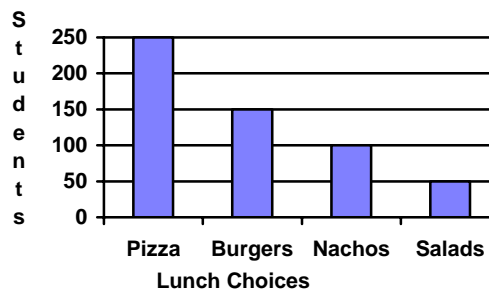
## WEEK 1 - BASIC ALGEBRA SKILLS

(the \* and • symbols stand for multiplication and / stands for division)

**DIRECTIONS:** You may find a calculator helps speed up your work on these problems. Remember, though, that you have to do the thinking, especially with order of operations.

### SOLVING PERCENT PROBLEMS

1. 45% of 720 is what number?
2. What percent of 70 is 28?
3. 16% of what number is 8?
4. What percent of the students bought burgers?



### EVALUATING EXPRESSIONS (substitute numbers for variables and simplify)

5.  $8x + 3y^2$  when  $x = -3$  and  $y = 4$
6.  $(x - y)^2 + (x - y^2)$  when  $x = 3$  and  $y = -2$
7.  $4x^2 - 5y^0$  when  $x = -2$  and  $y = 8$
8.  $\sqrt{x^3 - 2y}$  when  $x = 2$  and  $y = -4$

### SOLVING SIMPLE EQUATIONS

9.  $t + 45 = 205$
10.  $m - 10 = 2.3$
11.  $4 * b = -420$
12.  $x \div 6 = 82$

### SOLVING TWO-STEP EQUATIONS & INEQUALITIES

13.  $3x + 6 = 40$
14.  $5r - 4 < -13$
15.  $\frac{h}{3} - 8 = 10$
16.  $18 - 2b > -16$

### SOLVING MULTI-STEP EQUATIONS

17.  $4(x + 2) = 25$
18.  $3x + 6x = -18$
19.  $2x - 5 = 3x + 9$
20.  $6(x - 3) = 10x$

### OPERATING WITH EXPONENTS (answer in exponential form unless otherwise directed)

21.  $10,000 = 10^?$
22. Express in standard form:  $3^{-3}$
23.  $5^4 * 5^2 =$
24. Express  $5^{-2}$  in standard form

### EXPRESSING LARGE AND SMALL NUMBERS WITH SCIENTIFIC NOTATION

25. Write in standard notation:  $36.2 * 10^4$
26. Write in scientific notation: .0000704
27. Multiply and write the answer in scientific notation:  $(2 * 10^2) * (.04 * 10^{-2})$
28. Divide and write the answer in scientific notation:  $\frac{18 * 10^2}{9 * 10^3}$