

# Applications

*In today's competitive job market, it's important to realize that finding a job is in itself a full time job.*

Lee Marc, American Businessman and Developer of Online Resume Site

1. Interpret the quote in the context of what you learned about job seeking.
2. Danny just answered a help-wanted ad. The ad states that the job pays \$27K annually. What would Danny's monthly salary be if he gets this job?
3. Becky is looking for a new job as an account executive. She responds to a classified ad for a position that pays 34.5K. What would Becky's weekly salary be to the nearest cent, if she gets this job?
4. Enid got a job through an employment agency that charges a fee equal to 40% of the first five weeks' pay. The job pays \$315 per week. How much does Enid have to pay the employment agency?
5. Melanie got a new job through the Jones Employment Agency. The job pays \$32,400 per year, and the agency fee is equal to 45% of one month's pay. How much must Melanie pay the agency?
6. The Rockville Employment Agency just placed Howard Jacobson in a job as a junior pharmacist. The job pays \$51.2K. The agency fee is equal to 40% of the first three weeks' pay.
  - a. What is Howard's weekly salary to the nearest cent?
  - b. What will Howard earn during the first three weeks?
  - c. How much must Howard pay the employment agency to the nearest dollar?
7. Maple Place Garage is posting five job listings with the online service from Example 4.
  - a. How much is each posting?
  - b. How much less does Maple Place pay per posting compared to the price for one posting?
  - c. What is the cost of the five postings?
  - d. What is the total savings for the five postings?
  - e. Express the total savings as a percent of the total cost for the five postings. Round to the nearest percent.
8. Roger wants to have 400 copies of his resume printed. His local print shop charges \$21.50 for the first 200 copies and \$10 for every 100 additional copies.
  - a. How much will the 400 copies cost, including a sales tax of 6%?
  - b. If the number of sets of 100 resumes is represented by  $x$ , express the cost of the resumes,  $r(x)$ , as a piecewise function of  $x$ .
9. Pat earns \$575 per week at her new job. Express her annual salary using the K abbreviation found in classified ads.

10. Kareem earns  $y$  dollars per month at his accounting job. Express his annual salary using the K abbreviation found in classified ads.

11. Mike is a veterinarian. He is placing a 9-line classified ad for an assistant. The following piecewise function gives the price of an  $x$ -line ad.

$$a(x) = \begin{cases} 45 & \text{when } x \leq 3 \\ 45 + 9(x - 3) & \text{when } x > 3 \end{cases}$$

- Find the difference between the cost of a 2-line ad and the cost of a 3-line ad.
  - Find the cost of a 10-line ad.
  - Find the cost of an 11-line ad.
  - Can you find the difference between the cost of a 15-line ad and a 17-line ad, without finding out the cost of each ad first? Explain.
12. Joanne is looking for a job as a teacher. She plans to send resumes to 123 schools in her county. Her local printer charges \$23 per 100 copies, and sells them only in sets of 100.
- How many copies must Joanne purchase if she is to have enough resumes?
  - How much will the copies cost her, including 8% sales tax?
  - If the number of sets of 100 resumes is represented by  $x$ , express the cost, with 8% sales tax, of the resumes,  $r(x)$ , as a function of  $x$ .
13. Cathy is looking for a job as a bookkeeper. One classified ad lists a job in a stereo store that pays 34.6K. Another job, in a clothing store, has a weekly salary of \$620.
- Which job is the higher-paying job?
  - What is the difference in the weekly salaries of these two jobs? Round to the nearest dollar.
14. An online job seeking service allows job seekers to post their resumes for free. The service charges employers looking for applicants a fee to look through the resumes. The fee is based on how long the employer wants access to the resumes, and how many miles from the workplace address the employer wants to consider. The fees are \$585 for a 100-mile radius for 3 weeks and \$675 for a 150-mile radius for 3 weeks.
- If there are 98 resumes within a 100-mile radius, what is the average cost to the nearest cent to the employer for looking at each resume?
  - If there are 208 resumes within a 150-mile radius, what is the average cost to the employer for looking at each resume?
  - Under the 150-mile radius option, an employer would see the same 98 resumes from part a that he would have seen under the 100-mile radius option. What is the average cost to the employer for looking at the extra resumes he would see if he opted for the more expensive plan? Explain.
  - Give an advantage and a disadvantage of opting for the more expensive plan.