

On a recent calculus test, the results were normally distributed with  $\bar{x} = 70$  and  $s = 10$ . Find each of the following.

13. the percent of scores greater than 90
14. the percent of scores between 80 and 90
15. the score which has 8% of the scores above it

If  $\bar{p} = 0.3$  and  $n = 100$ , find each of the following.

16. the standard deviation of  $\bar{p}$
17. a 95% confidence interval for  $p$
18. a 99% confidence interval for  $p$
19. A company employs 46 women and 28 men. In a survey of employees, 12 women and 8 men are randomly selected, with 9 of the women and 3 of the men favoring a proposed change in benefits. Estimate the percent of all employees favoring the change.

## MIXED REVIEW

Chapters 1–17

1. Write an equation of the line through  $(-1, 10)$  and  $(17, 4)$ .
2. What is the  $y$ -coordinate of the point on the line with  $x$ -coordinate 3 for the line described in Exercise 1?
3. Find an equation of the line through the origin and perpendicular to the line described in Exercise 1.

Sketch the graph of each function.

4.  $y = -\frac{1}{4}x^4$

5.  $y = 20x^{0.5}$

6.  $y = 4(2.5)^x$

7.  $y = 3\left(\frac{1}{2}\right)^x$

Express  $y$  in terms of  $x$ .

8.  $\log y = 3.4x + 1.3$

9.  $\log y = \log 4 + 7 \log x$

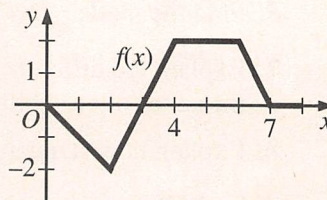
Find an expression for  $\log y$ .

10.  $y = 4(2.4)^x$

11.  $y = \frac{2}{3}x^{-4}$

12. Using the graph at the right below, complete this definition of  $f(x)$ :

$$f(x) = \begin{cases} -x, & 0 \leq x < 2 \\ \underline{\quad? \quad}, & 2 \leq x < 4 \\ \underline{\quad? \quad}, & \underline{\quad? \quad} \\ \underline{\quad? \quad}, & \underline{\quad? \quad} \\ \underline{\quad? \quad}, & \underline{\quad? \quad} \end{cases}$$



For Exercises 13–15, refer to the graph in Exercise 12.

13. Sketch the graph of  $y = |f(x)|$ .
14. Sketch the graph of  $y = f(2x)$ .
15. Sketch the graph of  $y = f(x - 3) - 5$ .