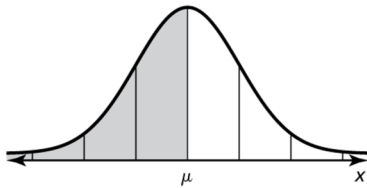


# 11.1

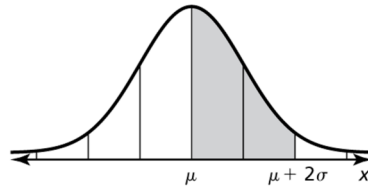
## Practice WS

In Exercises 1 and 2, give the percent of the area under the normal curve represented by the shaded region.

1.



2.



In Exercises 3–5, a normal distribution has mean  $\mu$  and standard deviation  $\sigma$ . Find the indicated probability for a randomly selected  $x$ -value from the distribution.

3.  $P(x \geq \mu + 3\sigma)$

4.  $P(x \geq \mu - 3\sigma)$

5.  $P(\mu - 2\sigma \leq x \leq \mu)$

In Exercises 6–8, a normal distribution has a mean of 28 and a standard deviation of 3. Find the probability that a randomly selected  $x$ -value from the distribution is in the given interval.

6. between 25 and 31

7. between 22 and 28

8. at least 31

9. The scores on an entrance mathematics exam are normally distributed with a mean of 76 and a standard deviation of 9.

a. About what percent of students have scores between 67 and 94?

b. About what percent of students have scores above 85?

10. A normal distribution has a mean of 18 and a standard deviation of 3. Describe and correct the error in finding the probability that a randomly selected  $x$ -value is in the given interval.

$\leftarrow$  9 12 15 18 21 24 27  $\rightarrow$   $x$

The probability that  $x$  is at least 15 is 0.8385.