

### CHECKING YOUR PROGRESS: A SELF-TEST

1. What are the properties of the sampling distribution of the mean differences?
2. Describe the research conditions in which a  $t$  test for independent samples is appropriate.
3. Describe the research conditions in which a  $t$  test for dependent samples is appropriate.
4. A  $t$  ratio is another version of which of the following?
  - a. standard score
  - b.  $z$  score
  - c. two-tailed test
  - d. standard error
  - e. a and b
5. A social psychologist studied the effect of leadership style on the productivity of workers at an assembly plant for fax machines. Nine teams of workers were supervised by democratic leaders, and 15 teams worked for autocratic leaders. The average number of fax machines assembled in an hour by each team was recorded. The groups working for democratic leaders completed an average of 28.6 machines per hour, with  $s^2 = 62.41$ . The groups working for autocratic leaders completed an average of 26.2 machines per hour, with  $s^2 = 45.32$ . Did leadership style affect performance?
6. A group of 10 students completed a class to improve reading speed. Their average reading speed, in words per minute, was measured before and after taking the class. Was the class effective?

<u>Student</u>	<u>Speed Before</u>	<u>Speed After</u>
A	476	519
B	342	460
C	527	499
D	261	450
E	439	610
F	517	547
G	391	519
H	422	662
I	321	456
J	410	420