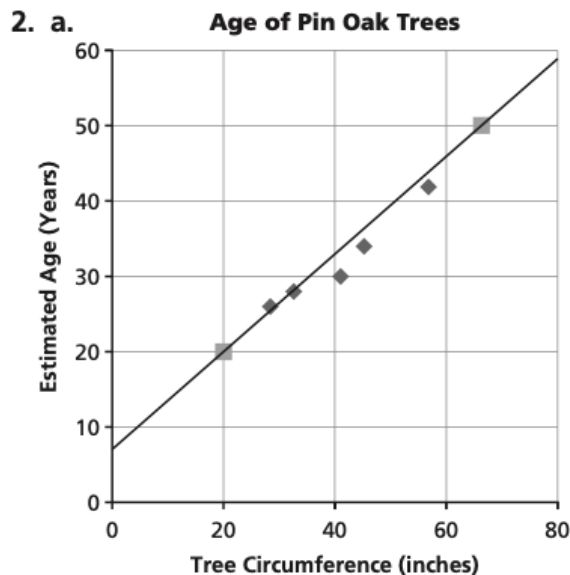
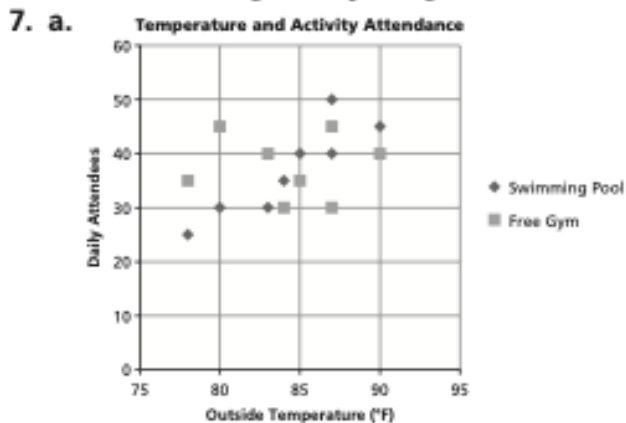


Investigation 4 Additional Practice

- As circumference of a tree increases, so does its age in years.
 - Sample answer: Around 38 years, because 38 is between 34 and 43, the ages of the trees in the table with circumferences of 45 and 57 inches respectively.



- $y = \frac{15}{23}c + \frac{160}{23}$
 - Actual: approximately 0.99; Sample answer: All points lie very close to the line, and the correlation is positive, so a value near 1.0 is to be expected.
- Sample answers:
A: 0.98; B: -0.85; C: 0.15; D: -0.8
 - C, D, B, A
- The number of hours of sleep needed to feel rested decreases as age increases.
 - 0.5; There is a negative correlation because the slope of the line is negative. The data values appear linear but are not very close to the line, so the correlation is not very strong.
 - Sample answer: No; the trend is probably not valid for higher ages, because if the trend continues, at a certain age people would no longer need to sleep at all.



- The outside temperature appears to have some effect on the number of swimmers, but it has little effect on the number of registrants for free gym. There appears to be a linear association in the swimming pool data, but not in the free gym data.
 - No; the data for free gym weakens the correlation, so it would be better to use a model line that represents only the swimming pool data points.
- The number of people who attend the swimming pool is fairly spread out with a center around 37.
 - The number of people who attend free gym is clustered around 37.5.
- The data are positively correlated. The correlation coefficient is closest to 0.50.
- D, B, C, A
- mean
 - median
 - standard deviation

Skill: Describing Data Sets

- The total boat rental charge increases at a rate of \$15 per hour.
- The snow is falling at a rate of 1.25 inches per hour.

3. a. **Sample answer:** false, because 24% of seventh graders prefer pop music compared to 24.4% of eighth graders.
 b. **Sample answer:** true, because equal numbers of people who like country music are in sixth or seventh grade.
 c. **Sample answer:** true, because fewer eighth graders prefer pop music than rock music.
 d. **Sample answer:** false, because 20% of sixth graders prefer rock music while 17.4% of eighth graders prefer other types of music.

4. a.

	C	P	R	O
6th	25%	30%	20%	25%
7th	20%	24%	24%	32%
8th	33%	24%	26%	17%

b.

	C	P	R	O
6th	29%	34%	25%	29%
7th	29%	34%	38%	47%
8th	43%	31%	38%	24%

c.

	C	P	R	O	T
6th	7%	9%	6%	7%	29%
7th	7%	9%	9%	12%	37%
8th	11%	8%	9%	6%	34%
T	25%	26%	24%	25%	100%

5. a.

	Music	Games	Total
< 18	62	64	126
18–29	54	59	113
30–50	45	51	96
> 50	15	10	25
Total	176	184	360

b.

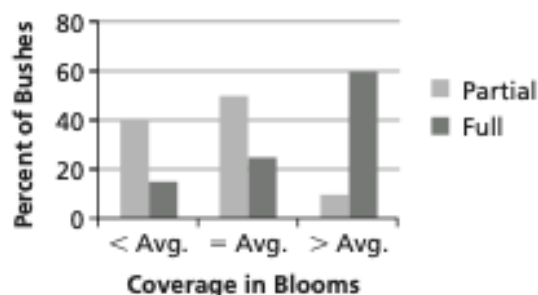
	Music	Games	Total
< 30	116	123	239
≥ 30	60	61	121
Total	176	184	360

- c. **Sample answer:** No, because 116 is less than twice 60.
 d. **Sample answer:** It is more likely that they will purchase games, because $123 > 116$.
 e. **Sample answer:** It is about equally likely that a person over 30 will purchase music or games, because both percents are close to 50%.
 c. **Sample answer:** No, because 116 is less than twice 60.
 d. **Sample answer:** It is more likely that they will purchase games, because $123 > 116$.
 e. **Sample answer:** It is about equally likely that a person over 30 will purchase music or games, because both percents are close to 50%.

6. a.

Direct Sun	Coverage in Blooms		
	< Avg.	Avg.	> Avg.
Partial	40%	50%	10%
Full	15%	25%	60%

b. **Partial vs. Full Sunlight for Roses**



- c. **Sample answer:** No, because only 60% of the bushes planted in partial sunlight produced at least an average number of blooms compared to 85% of bushes planted in full sunlight.
 7. 60%
 24 out of 40
 8. $\frac{6}{60} = \frac{1}{10} = 10\%$
 9. (Figure 1)

Figure 1

	Blue	Red	Green	Orange
7th grade	20%	28%	40%	12%
8th grade	16%	44%	32%	8%