Applying Statistics

Answer Keys, Program 6: Worksheets 1 – 3

Each question on every worksheet offers the students the option of marking "Teacher" instead of or in conjunction with answering the question. The "Teacher" option is included to support student understanding and achievement. Students may have as much help and guidance as they need to understand concepts and master skills.

Instructors may decide whether to use the two or four point scoring rubric for constructed response problems (problems that use numbers, pictures, or words to justify/explain student answers). See the appendix for the complete rubrics.

Two-Point Scoring Rubric	Four-Point Scoring Rubric
2 – Complete	4 – Complete
1 – Partial	3 – Clear
0 – Inadequate	2 – Partial
	1 – Minimal
	0 - Inadequate

Worksheet 1

1. B. 1
2. C. 4.5
3. C. 7.4
4. B. $\frac{7}{10}$
5. A. 3
6. C. $\frac{1}{4}$
7. B. 1
8. C. 0
9. B. $\frac{1}{3}$
10. C. $\frac{1}{10}$

Worksheet 2

1. B. $\frac{1}{4}$
2. A. $\frac{1}{52}$
3. A. $\frac{3}{25}$
4. A. 1%
5. C. $\frac{1}{2}$
6. A. $\frac{1}{2}$
7. B. 5, 5, 7, 11
8. B. 15,000
9. A. Red
10. B. 3,000

Worksheet 3

1. The mean is 89°. The mean shows how deep the water would be in Burns Reservoir if it was the same all five days. Answers should reflect the following 1) (87 + 87 + 89 + 90 +92) ÷ 5. 2) The definition of mean is the average of the numbers in a data set. An average is a number that typifies a set of numbers of which it is a function.
2. C. 40
3. D. 16
4. B. The most common weight of the wooden balls was 7 ounces.
5. B. Spin the spinner 200 times and see how close to 50 times the arrow lands on each number.
6. B. $\frac{1}{6}$
7. C. 3
8. $\frac{1}{35}$, 3%. Answers should reflect the following:
   1) Total money earned. 2000 x $7 = $14,000
   2) Total prize money. 200 + 100 + 75 + 25 = $400.
   3) Ratio. $\frac{400}{14000} = \frac{400 \div 400}{14{,}000 \div 400} = \frac{1}{35}$
   4) Convert the fraction to a percent. $\frac{100}{1} \times \frac{1}{35} = \frac{100 \times 1}{1 \times 35} = \frac{100}{35} = .0285 \, or \, 3\%$
9. B. .275
10. Mode: 100%, Median: 95.5% Range: 26%. Answers should reflect the following:
    1) Mode is the score that appears most often and Chris got a 100% five times.
    2) Median is the central number (or the average of the central 2 numbers in a data set with a even amount of numbers) when a data set is ordered least to greatest. For the 24 numbers in the Chris's scores {74, 75, 76, 76, 78, 83, 87, 89, 91, 94, 94, 95, 96, 96, 97, 97, 98, 99, 99, 100, 100, 100, 100, 100}, the two central numbers are 95 and 96. The average of 95 and 96 is 95.5%.
    3) Range is distance between the lowest number and the highest number in a data set. 100 – 74 = 26%.
11. B. increased by $24
12. $\frac{1}{15}$. Answers should reflect the following:
    1) There are 5 different colors of tee shirts.
    2) There are 3 different colors of jeans.
    3) There are 15 different possible combinations of the tee shirts and the jeans. 5 x 3 = 15
    4) Of the 15 possible combinations of outfits, there is only one combination that is the yellow tee shirt and the black jeans. 1 : 15 is $\frac{1}{15}$