$\qquad$
$\qquad$
$\qquad$

5

## Short Answer

Find the rule for each function table.
1.

| $\boldsymbol{n}$ | $\square$ |
| ---: | :---: |
| -7 | -14 |
| 0 | -7 |
| 3 | -4 |

Write each decimal in standard form.
2. five hundred sixty-three thousandths

Write each decimal in expanded form.
3. nine hundred eighty-one ten-thousandths
4. seven and three hundred sixty-three ten-thousandths

Use $>,<$, or $=$ to compare each pair of decimals.
5. $7.69 \bigcirc 7.69$

Write each fraction in simplest form.
6. $\frac{2}{16}$
7. Terrence braids 5 different styles of bracelets using 3 different types of thread. How many combinations of style and color are possible?

Add or subtract. Write the answer in simplest form.
8. $\frac{4}{13}+\frac{2}{13}$
9. $\frac{7}{16}-\frac{1}{16}$

Write each ratio as a fraction in simplest form.
10. 10 sweaters to 8 shirts

Write each ratio as a unit rate.
11. 193.92 miles for 9.6 gallons

Use words and symbols to describe the value of each term as a function of its position.
12. Find the value of the ninth term in the sequence.

| Position | 4 | 5 | 6 | 7 | $n$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Value of Term | 0 | 1 | 2 | 3 |  |

13. A newborn baby's heart beats about 8 times every 3 seconds. Write an equation to find $b$, the number of heart beats in $s$ seconds.

Write each fraction as a percent.
14. $\frac{1}{10}$

The spinner shown is spun once. Find each probability. Write each answer as a fraction, a decimal, and a percent.

15. $P($ less than 3$)$
16. $P(\operatorname{not} 4)$

A 6 -sided number cube is rolled. Find the probability of each event. Write each answer as a fraction, a decimal, and a percent.
17. $P(5)$
18. A basketball coach has 4 students that play guards, 2 students that play centers, and 3 students that play forwards. How many different combinations of players can she use for the positions?

Find the length of each line segment or object to the nearest half, fourth, or eighth inch.
19.


## Complete.

20. $28 \mathrm{qt}=$ $\qquad$ pt

Use the draw a diagram strategy.
21. Jennifer's mom is putting a basketball hoop on the garage. The garage door is 8 feet high. There is 7 feet of wall between the top of the garage door to the garage roof. How far down from the garage roof should the hoop be placed so that it is 10 feet above the ground?

Solve each equation. Use models if necessary. Check your solution.
22. $r+5=-13$
23. $p-4=3$
24. $9=r-3$
25. $-11 g=-66$
26. $55=11 r$

Choose the best method of computation to solve the following problems:
27. The length of a basketball court is 94 feet long, while the width is 50 feet. Find about how many times larger the length of the court is than the width.
28. Ruby-throated hummingbirds have an average wing speed of 55 beats per second. How many times does this hummingbird beat its wings in one day?
29. Look at the table below of dog heights. Name three breeds that have heights with exactly two factors in common. List the three breeds in order of height, from shortest to tallest.

| Dog Breed | Height (inches) |
| :--- | :---: |
| Siberian Husky | 22 |
| Yorkshire Terrier | 9 |
| Great Pyrenees | 30 |
| Irish Terrier | 18 |
| Bullmastiff | 26 |
| French Bulldog | 11 |
| Chihuahua | 6 |

30. Janisa is expanding her living room by building an addition. The original living room measured 10 feet by 12 feet. She is adding five 5 feet to each dimension. What are the measurements for her new living room? How many more square feet does she have now?
31. The table shows the prices that Eddie found for rewritable CDs. How much would he save buying one dozen of the lowest-priced rewritable CDs instead of one dozen of the highest-priced rewritable CDs? Justify your answer.

| Rewritable <br> Compact Discs | Price (\$) <br> per CD |
| :--- | :---: |
| Brand A | 1.47 |
| Brand B | 2.59 |
| Brand C | 2.09 |
| Brand D | 1.49 |
| Brand E | 1.39 |

32. The length of Jorge's bedroom is 124 inches. Write the length as a mixed number in terms of feet in simplest form.
33. Callan finished the race in 51.313 seconds. Tony finished the race in 51.378 . Express the difference in these two times as a fraction in simplest form.
34. The table gives the prices of admission to the local science museum. A group of 7 people paid a total of $\$ 42$ for admission. If only one of them was a senior citizen, how many people in the group were adults and how many were children?

| Science Museum Admission Costs |  |
| :--- | :---: |
| Adults | $\$ 8$ |
| Children | $\$ 5$ |
| Senior Citizens | $\$ 6$ |

35. Yen went to the store with $\$ 50$. He saw video games that he likes for $\$ 27.99$. If he buys one video game, he gets a second one for half price. About how much money will be have left if he purchases two video games?
36. The table shows the number of hours Damian has worked this month. He normally works a maximum of 80 hours each month. Find how many hours he has worked so far this month. How many hours he will work in week 4?

| Week | Number of <br> Hours |
| :---: | :---: |
| 1 | $19 \frac{2}{5}$ |
| 2 | $22 \frac{1}{3}$ |
| 3 | $21 \frac{1}{2}$ |
| 4 | $?$ |

37. A zucchini bread recipe calls for $1 \frac{3}{4}$ cups sugar. If Corrine wants to make $3 \frac{1}{2}$ times the recipe and has 5 cups of sugar, how many more cups of sugar will she need to make the recipe?
38. Nina's dog eats $\frac{1}{6}$ of a pound of dog food twice a day. If Nina buys a 20 -pound bag of dog food, how many days will the bag feed her dog? Explain your reasoning.

A survey was conducted among people who work downtown to determine how they get to work each day. The results of the survey are shown in the circle graph.

39. How many more workers take the bus to work than take the commuter train?
40. The Venn diagram shows the number of sixth-grade students who participate in football and track. If there are 200 students in the sixth grade, what percentage of the students do not participate in football or track? Use any strategy to solve the problem. Explain your reasoning.

41. Teagan and Savanna are trying to determine which is greater, 25 millimeters or 25 centimeters. Teagan argues that 10 centimeters equals 1 millimeter, so 25 millimeters is a larger measurement. Savanna argues that 10 millimeters equals 1 centimeter, so 25 centimeters is the larger one. Which student is correct? Explain your reasoning.

Write the metric unit of capacity that you would use to measure each of the following. Then estimate the capacity.
42. the amount of gasoline in the tank of a school bus
43. Josie hiked 10,525 meters from the park to a hill's summit. She continued on from there, hiking 6,325 meters to the river. She hiked another 850 meters before setting up camp for the night. How many kilometers did she hike total? How many kilometers farther is it from the park to the summit than from the summit to the campsite?
44. A study revealed that $52,500,000$ acres of forests have been lost over the past 35 years due to housing development. If the loss continues at the same rate, how many acres will be lost in the next 10 years?
45. Camille spent 120 fewer minutes sanding her new desk than she spent painting it. If she spent 150 minutes painting her desk, write and solve an equation to find how many minutes Camille spent sanding and painting her desk. Convert the answer into hours and minutes.

Write and simplify an expression that represents the situation. Show your steps.
46. Julie bought 8 concert tickets over the phone. The cost per ticket was $\$ x$. Each ticket had a convenience charge of $\$ 2$. There was also a one-time transaction charge of $\$ 5$. What was the total cost of the tickets?
47. The table shows the deposits Miriam has made to her savings account. If her deposits totaled $\$ 305$, write and solve an equation to find the amount of the missing deposit.

| Miriam's Savings Deposits |  |
| :--- | :---: |
| Deposit 1 | $\$ 76.25$ |
| Deposit 2 | $?$ |
| Deposit 3 | $\$ 59.63$ |
| Deposit 4 | $\$ 31.92$ |
| Deposit 5 | $\$ 84.30$ |

48. The length of an art print is 8 times longer than the original artwork. If the art print is 72 inches, write and solve a multiplication equation to find the length of the original artwork.
49. Lucita's 9 horses eat 1,080 bushels of hay per month. Write and solve an equation to find how many bushels of hay one horse eats per month. Then determine how many bushels one horse eats per day. Assume there are 30 days in one month.
50. Wyatt wants to save an average of $\$ 128$ per week for five weeks. Use the table to find how much he must save during the fifth week to meet his goal.

| Week | Savings (\$) |
| :---: | :---: |
| 1 | 99 |
| 2 | 150 |
| 3 | 122 |
| 4 | 138 |
| 5 | $?$ |

## 5

## Answer Section

## SHORT ANSWER

1. ANS:
n-7
Study the relationship between the input and output. The output is the result of seven from $n$.

| $\boldsymbol{n}$ | $\boldsymbol{n}-\mathbf{7}$ |
| ---: | :---: |
| -7 | $-7-7=-14$ |
| 0 | $0-7=-7$ |
| 3 | $3-7=-4$ |

PTS: 1 DIF: Average REF: Lesson 1-6 OBJ: 1-6.2 Find function rules.
NAT: FP3 STA: 8.D.3a TOP: Find function rules.
KEY: Function | Function rules
2. ANS:
0.563

Thousandths is the third decimal place. Therefore, the correct answer is 0.563 .

PTS: 1 DIF: Average REF: Lesson 3-1
OBJ: 3-1.2 Represent decimals in standard form. NAT: FP1
STA: 6.A. 3 TOP: Represent decimals in standard form.
KEY: Decimals | Standard form
3. ANS:
$(9 \times 0.01)+(8 \times 0.001)+(1 \times 0.0001)$
The digit nine is in the hundredths place. The digit eight is in the thousandths place. The digit one is in the ten-thousandths place.

PTS: 1 DIF: Average REF: Lesson 3-1
OBJ: 3-1.3 Represent decimals in expanded form. NAT: FP1
STA: 6.A. 3 TOP: Represent decimals in expanded form.
KEY: Decimals | Expanded form
4. ANS:
$(7 \times 1)+(3 \times 0.01)+(6 \times 0.001)+(3 \times 0.0001)$

The digit seven is in the ones place. The digit three is in the hundredths place. The digit six is in the thousandths place. The digit three is in the ten-thousandths place.

PTS: 1 DIF: Average REF: Lesson 3-1
OBJ: 3-1.3 Represent decimals in expanded form.
NAT: FP1
STA: 6.A. 3 TOP: Represent decimals in expanded form.
KEY: Decimals | Expanded form
5. ANS:
$7.69=7.69$
Compare each decimal. Because both numbers begin with 7, begin with the first decimal place for each number. The number with the larger decimal is the larger number.

6. ANS:
$\frac{1}{8}$
Sample:
$\frac{6}{12}$
What is the greatest common factor of both the numerator and denominator? Divide both the numerator and denominator by the greatest common factor to find the fraction in simplest form.
$\frac{6}{12}=\frac{6}{2 \times 6}=\frac{1}{2}$

PTS: 1 DIF: Basic REF: Lesson 4-2
OBJ: 4-2.1 Express fractions in simplest form. NAT: FP1
STA: 6.A. 3 TOP: Express fractions in simplest form.
KEY: Fractions | Simplest form
7. ANS:

15
15; make an organized list.
Style 1 bracelet $=3$ possibilities
Style 2 bracelet $=3$ possibilities
Style 3 bracelet $=3$ possibilities
Style 4 bracelet $=3$ possibilities
Style 5 bracelet $=3$ possibilities
Total $=15$ possibilities

PTS: 1 DIF: Average REF: Lesson 4-4
OBJ: 4-4-1 Solve problems by making an organized list.
TOP: Solve problems by making an organized list. KEY: Make a list \| Problem solving
8. ANS:
$\frac{6}{13}$
To add fractions with like denominators, add the numerators. Use the same denominator in the sum.

PTS: 1 DIF: Basic REF: Lesson 5-3
OBJ: 5-3.1 Add fractions with like denominators. NAT: FP1
STA: 6.B.3a | 6.C.3a TOP: Add fractions with like denominators.
KEY: Fractions | Like denominators
9. ANS:
$\frac{3}{8}$
To subtract fractions with like denominators, subtract the numerators. Use the same denominator in the difference.

PTS: 1 DIF: Average REF: Lesson 5-3
OBJ: 5-3.2 Subtract fractions with like denominators. NAT: FP1
STA: 6.B.3a | 6.C.3a TOP: Subtract fractions with like denominators.
KEY: Fractions | Like denominators
10. ANS:
$\frac{5}{4}$
Ten is the numerator, and eight is the denominator. The GCF is two. The reduced fraction is $\frac{5}{4}$.

PTS: 1 DIF: Average REF: Lesson 6-1
OBJ: 6-1.1 Express ratios in fraction form. NAT: FP2
STA: 6.D. 3 TOP: Express ratios in fraction form. KEY: Ratios | Fractions
11. ANS:
20.2 miles per gallon

Divide the number of miles by the number of gallons.
$193.92 \div 9.6=20.2$

PTS: 1 DIF: Average REF: Lesson 6-1
OBJ: 6-1.2 Express rates in fraction form. NAT: FP2
TOP: Express rates in fraction form. KEY: Unit rate | Ratios
12. ANS:
$n-4 ; 5$
The value of each term is 4 less than its position number. Now, find the value of the ninth term.

PTS: 1 DIF: Average REF: Lesson 6-6
OBJ: 6-6.1 Extend and describe arithmetic sequences using algebraic expressions.
NAT: FP5C TOP: Extend and describe arithmetic sequences using algebraic expressions.
KEY: Arithmetic sequences | Algebraic expressions
13. ANS:
$3 b=8 s$
Examine how the value of each input and output changes. Each output, $3 b$, is equal to 8 times the input, $s$.

PTS: 1 DIF: Advanced REF: Lesson 6-7
OBJ: 6-7.1 Write an equation to describe a proportional situation.
NAT: FP2 STA: 6.D.3 TOP: Write an equation to describe a proportional situation.
KEY: Write equations | Proportions
14. ANS:

10\%
Divide the numerator by the denominator. Then multiply the result by 100 .

PTS: 1 DIF: Average REF: Lesson 7-1
OBJ: 7-1.2 Express fractions as percents.
STA: 6.A. 3
TOP: Express fractions as percents. KEY: Percent | Fractions
15. ANS:
$\frac{1}{4}, 0.25,25 \%$
The probability of an event is the number of ways that an event can occur over the number of possible outcomes. There are 2 favorable outcomes out of 8 possible outcomes so the probability is $\frac{2}{8}=\frac{1}{4}$.

PTS: 1 DIF: Basic REF: Lesson 7-4
OBJ: 7-4.1 Find and interpret the probability of a simple event.
STA: 10.C.3a TOP: Find and interpret the probability of a simple event.
KEY: Probability | Theoretical probability
16. ANS:
$\frac{7}{8}, 0.875,87.5 \%$
The number of favorable outcomes over the number of possible outcomes.
PTS: 1 DIF: Basic REF: Lesson 7-4
OBJ: 7-4.1 Find and interpret the probability of a simple event.
STA: 10.C.3a TOP: Find and interpret the probability of a simple event.
KEY: Probability | Theoretical probability
17. ANS:
$\frac{1}{6}, 0.1 \overline{6}, 16 . \overline{6} \%$
The probability of an event is the number of ways that an event can occur over the number of possible outcomes. There is 1 favorable outcome out of 6 possible outcomes so the probability is $\frac{1}{6}$.

PTS: 1 DIF: Basic REF: Lesson 7-4
OBJ: 7-4.1 Find and interpret the probability of a simple event.
STA: 10.C.3a TOP: Find and interpret the probability of a simple event.
KEY: Probability | Theoretical probability
18. ANS:

24
Make an organized list to keep track of the sequences.

PTS: 1 DIF: Advanced REF: Lesson 7-5
OBJ: 7-5.2 Construct sample spaces using lists.
TOP: Construct sample spaces using lists.

STA: 10.C.3a
KEY: Sample space \| Lists
19. ANS:
$1 \frac{1}{8}$ in.
The length of the line segment is $1 \frac{1}{8}$ inches.

PTS: 1 DIF: Average REF: Lesson 8-1
OBJ: 8-1.2 Measure length in customary units.
TOP: Measure length in the customary system.
STA: 7.A.3a
KEY: Customary units | Measurement
20. ANS:

56
Sample:
$55 \mathrm{gal}=$ $\qquad$ qt

There are 4 quarts in 1 gallon. Multiply 55 by 4 to obtain the number of quarts in 55 gallons.
$55(4)=220 \mathrm{qt}$

PTS: 1 DIF: Average REF: Lesson 8-2
OBJ: 8-2.1 Change units of capacity in the customary system.
STA: 7.A.2a TOP: Change units of capacity in the customary system.
KEY: Customary units | Measurement
21. ANS:

5 feet
Draw a diagram to find the measurement. If the door is 8 ft , there will be 2 ft between the top of the door and the hoop, so there will be 5 ft between the hoop and the roof.

PTS: 1 DIF: Average REF: Lesson 9-6
OBJ: 9-6.1 Solve problems by drawing a diagram. STA: 7.C.3b
TOP: Solve problems by drawing a diagram.
KEY: Draw a diagram | Problem solving
22. ANS:
-18
What must be subtracted from both sides to get the variable by itself?
PTS: 1 DIF: Basic REF: Lesson 12-3 OBJ: 12-3.1 Solve addition equations.
NAT: FP3 STA: 6.A.3b TOP: Solve addition equations.
KEY: Addition | Solving equations
23. ANS:

7
What must be added to both sides to get the variable by itself?

PTS: 1 DIF: Basic REF: Lesson 12-4
OBJ: 12-4.1 Solve subtraction equations.
STA: 6.A.3b TOP: Solve subtraction equations.

NAT: FP3
KEY: Subtraction $\mid$ Solving equations
24. ANS:

12
What must be added to both sides to get the variable by itself?

PTS: 1 DIF: Basic REF: Lesson 12-4
OBJ: 12-4.1 Solve subtraction equations. NAT: FP3
STA: 6.A.3b TOP: Solve subtraction equations. KEY: Subtraction $\mid$ Solving equations
25. ANS:

6
In order to undo the multiplication of the coefficient and variable, both sides must be divided by the coefficient.

PTS: 1 DIF: Average REF: Lesson 12-5
OBJ: 12-5.1 Solve multiplication equations. NAT: FP3
STA: 6.A.3b TOP: Solve multiplication equations. KEY: Multiplication $\mid$ Solving equations
26. ANS:

5
In order to undo the multiplication of the coefficient and variable, both sides must be divided by the coefficient.

PTS: 1 DIF: Average REF: Lesson 12-5
OBJ: 12-5.1 Solve multiplication equations. NAT: FP3
STA: 6.A.3b TOP: Solve multiplication equations. KEY: Multiplication $\mid$ Solving equations
27. ANS:
estimation
Since an exact answer is not needed, use estimation.

PTS: 1 DIF: Average REF: Lesson 12-6
OBJ: 12-6.1 Solve problems by choosing the best method of computation.
STA: 6.C.3a TOP: Solve problems by choosing the best method of computation.
KEY: Choose best method | Problem solving
28. ANS:
$4,752,000$ beats

Take the average speed of 55 beats per second, and multiply it by 60 to find the number of beats per minute. Multiply that product by 60 to find the number of beats per hour, and then multiply that product by 24 to find the number of beats in one day.

PTS: 1 DIF: Advanced REF: Lesson 1-1 OBJ: 1-1.2 Solve multi-step problems.
TOP: Solve multi-step problems.
KEY: Multi-step | Problem solving
29. ANS:

Chihuahua, Irish Terrier, and Great Pyrenees

Find the prime factorization of each breed. Compare the heights to find exactly two factors in common. Identify the three breed names and compare the heights in order to write them in order from shortest to tallest.

PTS: 1 DIF: Advanced REF: Lesson 1-2 OBJ: 1-2.2 Solve multi-step problems.
NAT: FP1 STA: 6.B.3b TOP: Solve multi-step problems.
KEY: Multi-step | Problem solving
30. ANS:

15 feet by 17 feet; 135 more square feet

Add 5 feet to both the original length and width. Find the areas of the original living room and the new living room. Find the difference of the two products to discover how many more feet she has with the addition.

PTS: 1 DIF: Average REF: Lesson 1-9 OBJ: 1-9.3 Solve multi-step problems.
NAT: FP6C STA: 7.A.3b|7.C.3b TOP: Solve multi-step problems.
KEY: Multi-step | Problem solving
31. ANS:
$\$ 14.40$; multiply the cost of the lowest-priced CD and the cost of the highest-priced CD by 12 to find the cost of a dozen CDs at both prices. Subtract the two products to find Eddie's
savings. $12(\$ 2.59)-12(\$ 1.39)=\$ 31.08-\$ 16.68=\$ 14.40$

PTS: 1 DIF: Advanced REF: Lesson 3-6 OBJ: 3-6.2 Solve multi-step problems.
NAT: FP1 STA: 6.B.3a|6.C.3a TOP: Solve multi-step problems.
KEY: Multi-step | Problem solving
32. ANS:
$10 \frac{1}{3} \mathrm{ft}$

Divide 124 inches by 12 to find the number of feet. Then reduce the remaining fraction, $\frac{4}{12}$, to simplest form.

PTS: 1 DIF: Advanced REF: Lesson 4-3 OBJ: 4-3.3 Solve multi-step problems.
NAT: FP1 STA: 6.A. 3
TOP: Solve multi-step problems.
KEY: Multi-step | Problem solving
33. ANS:
$\frac{13}{200}$

Subtract the two times to find the difference. Write the decimal as a fraction using the place value as the denominator. Reduce the fraction.

PTS: 1 DIF: Advanced
NAT: FP1 STA: 6.A.2
KEY: Multi-step | Problem solving
34. ANS:

2 adults and 4 children

Subtract the cost of the one senior citizen ticket from the total amount paid. Find a combination of adults and children that satisfies both the total remaining cost and the total number of people in the group.

PTS: 1 DIF: Advanced REF: Lesson 5-2 OBJ: 5-2.2 Solve multi-step problems.
TOP: Solve multi-step problems.
KEY: Multi-step | Problem solving
35. ANS:
about \$8

One video game costs about $\$ 28$. The second video game will cost about $\$ 14$. Two video games will cost about $\$ 28+\$ 14$ or $\$ 42$. Therefore, Yen will have about $\$ 50-\$ 42$ or $\$ 8$ left if he purchases two video games.

PTS: 1 DIF: Advanced REF: Lesson 5-2 OBJ: 5-2.2 Solve multi-step problems. TOP: Solve multi-step problems. KEY: Multi-step | Problem solving
36. ANS:
$63 \frac{7}{30}$ hours so far; $16 \frac{23}{30}$ hours during week 4

Find the LCD, and rename each fraction. Then calculate the sum of the hours for the first three weeks. Rename 80 as $79 \frac{30}{30}$, and subtract the sum to find the number of hours he has left to work this month.

PTS: 1 DIF: Advanced REF: Lesson 5-5 OBJ: 5-5.4 Solve multi-step problems.
NAT: FP1 STA: 6.B.3a|6.C.3a TOP: Solve multi-step problems.
KEY: Multi-step | Problem solving
37. ANS:
$1 \frac{1}{8}$ cups

Multiply the number of cups of sugar Corrine needs for the original recipe by the number of times larger she wants to make the recipe, $1 \frac{3}{4} \times 3 \frac{1}{2}=6 \frac{1}{8}$ cups. She has 5 cups, so she will need $6 \frac{1}{8}-5$ or $1 \frac{1}{8}$ cups more sugar.

PTS: 1 DIF: Average REF: Lesson 5-8 OBJ: 5-8.2 Solve multi-step problems.
NAT: FP1 STA: 6.B.3a|6.C.3a TOP: Solve multi-step problems.
KEY: Multi-step | Problem solving
38. ANS:

60 days

Nina feeds her dogs $\frac{1}{6}$ of a pound of dog food twice a day, so the dog eats $\frac{1}{6}+\frac{1}{6}$ or $\frac{1}{3}$ pound per day.
Divide the 20 -pound bag by $\frac{1}{3}$ to see how many days it would last, $20 \div \frac{1}{3}=20 \times \frac{3}{1}$ or 60 days.

PTS: 1 DIF: Basic REF: Lesson 5-9 OBJ: 5-9.2 Solve multi-step problems.
NAT: FP1|FP4C STA: 6.B.3a|6.C.3a TOP: Solve multi-step problems.
KEY: Multi-step | Problem solving
39. ANS:

2 times as many
Divide the percents of each category.
$28 \% \div 14 \%=2$

PTS: 1 DIF: Average REF: Lesson 7-2 OBJ: 7-2.2 Analyze circle graphs.
STA: 10.A.3a TOP: Analyze circle graphs. KEY: Circle graphs | Analyzing data
40. ANS:
$70 \%$; sample answer: I found the sum of the students who participate in football, track, or both. I divided that sum by 200 , the total number of students in sixth grade, to get a fraction of $\frac{3}{10}$ or $30 \%$. This represents the amount of students who do participate, so I subtracted it from $100 \%$ to find the amount of students who do not participate in either sport.

PTS: 1 DIF: Advanced REF: Lesson 7-7 OBJ: 7-7.2 Solve multi-step problems.
TOP: Solve multi-step problems.
KEY: Multi-step | Problem solving
41. ANS:

Savanna is correct.

Savanna's argument, that there are 10 millimeters in every centimeter, is valid so her conclusion is correct. Teagan has his measurements reversed.

PTS: 1 DIF: Average REF: Lesson 8-3 OBJ: 8-3.2 Solve multi-step problems.
STA: 7.A.3a TOP: Solve multi-step problems. KEY: Multi-step | Problem solving
42. ANS:
liter; 150 L

A school bus holds a fairly large amount of gasoline. It would be about 150 L , but any reasonable answer should be accepted.

PTS: 1 DIF: Average REF: Lesson 8-4
OBJ: 8-4.2 Use metric units of capacity.
STA: 7.A.3a
TOP: Use metric units of capacity. KEY: Metric units | Measurement
43. ANS:
17.7 kilometers; 3.35 km

Add all of the meters together to get a total of 17,700 meters hiked. Since 1,000 meters $=1$ kilometer, 17,700 meters $=17.7$ kilometers. She walked 10.525 kilometers to get to the summit. From there, she walked $6.325+0.850$ or 7.175 kilometer from the summit to the campsite. The difference is $10.525-$ 7.175 or 3.35 kilometers.

PTS: 1 DIF: Advanced REF: Lesson 8-6 OBJ: 8-6.2 Solve multi-step problems.
STA: 7.A.2a TOP: Solve multi-step problems. KEY: Multi-step | Problem solving
44. ANS:
$15,000,000$ less acres in the next 10 years
Divide $52,500,000$ by 35 to find the number of forest acres lost per year, or $1,500,000$ acres.
Multiply this quotient by 10 to find the amount of acreage that will be lost in the next ten years, $1,500,000 \times 10=15,000,000$.

PTS: 1 DIF: Average REF: Lesson 11-6 OBJ: 11-6.2 Solve multi-step problems.
NAT: FP1 STA: 6.B.3a|6.C.3a TOP: Solve multi-step problems.
KEY: Multi-step | Problem solving
45. ANS:
$150+150+-120=t ; 180$ minutes or 3 hours
Put 150 minutes and $150-120$ minutes on one side of the equation and $t$ on the other to represent the number of minutes she spent sanding and painting her desk. Solve for $t$ by subtracting 120 from 150 and adding the difference to 150 to get her total time spent sanding and painting. This is 180 minutes.
Finally, there are 60 minutes in one hour so 180 minutes is $180 \div 60$ or 3 hours.

PTS: 1 DIF: Advanced REF: Lesson 12-4 OBJ: 12-4.2 Solve multi-step problems.
NAT: FP3 STA: 6.A.3b TOP: Solve multi-step problems.
KEY: Multi-step | Problem solving
46. ANS:
$8(x+2)+5$
$8 x+16+5$
$8 x+21$

Each ticket costs $(x+2)$. There were 8 tickets $8(x+2)$. The transaction charge is added to the ticket cost $8(x+2)+5$. Multiply and add like terms.

PTS: 1 DIF: Average REF: Lesson 12-2
OBJ: 12-2.1 Use the Commutative and Associative properties to simplify expressions.
STA: 8.A.3a TOP: Use the Commutative and Associative properties to simplify expressions.
KEY: Associative Property | Commutative Property | equivalent expressions
47. ANS:
$\$ 76.25+d+\$ 59.63+\$ 31.92+\$ 84.30=\$ 305 ; \$ 52.90$

Miriam's deposits totaled $\$ 305$, so that goes on one side of the equation, with all of her individual deposits on the other side. Assign a variable to represent the missing deposit.
Subtract the sum of the deposits from both sides of the equation. Therefore, Miriam's second deposit was $\$ 52.90 . \$ 76.25+\$ 52.90+\$ 59.63+\$ 31.92+\$ 84.30=\$ 305$.

PTS: 1 DIF: Advanced REF: Lesson 12-3 OBJ: 12-3.2 Solve multi-step problems.
NAT: FP3 STA: 6.A.3b TOP: Solve multi-step problems.
KEY: Multi-step | Problem solving
48. ANS:
$8 a=72 ; 9$ inches

Place the length of the art print on one side of the equation and the expression $8 a$ on the other side with $a$ to representing the length of the original artwork. Solving for $a$, divide both sides by 8 to get the length of the original artwork at 9 inches.

PTS: 1 DIF: Average REF: Lesson 12-5 OBJ: 12-5.2 Solve multi-step problems.
NAT: FP3 STA: 6.A.3b TOP: Solve multi-step problems.
KEY: Multi-step | Problem solving
49. ANS:
$9 x=1,080 ; 1$ horse eats 120 bushels per month or 4 bushels per day
Place how much Lucita's horses eat on one side of the equation and the expression $9 x$ on the other side with $x$ to representing the number of bushels each horse consumes. Divide both sides by 9 to find the number of bushels that one of her horses eats per month, 120 bushels. Divide this by 30 to determine the number of bushels a horse eats per day, assuming 30 days in one month, $120 \div 30=4$. One horse eats 4 bushels of hay per day.

PTS: 1 DIF: Advanced REF: Lesson 12-5 OBJ: 12-5.2 Solve multi-step problems.
NAT: FP3 STA: 6.A.3b
KEY: Multi-step | Problem solving
50. ANS:
\$131

Work backward to find the answer. To average $\$ 128$ per week for savings, multiply $\$ 128 \times 5$ to get $\$ 640$. This is the total amount he needs to have saved over the course of 5 weeks in order to average $\$ 128$ per week. Add the total amount he saved during the first four weeks, and subtracted that sum from $\$ 640$ to determine how much he would need to save in week 5.

PTS: 1 DIF: Advanced REF: Lesson 12-6 OBJ: 12-6.2 Solve multi-step problems.
STA: 6.C.3a TOP: Solve multi-step problems. KEY: Multi-step | Problem solving

