

Algebra 1

Zimmerman

Week 5 & 6

Apr 27 – May 8

11-5 Practice

Form G

Solving Rational Equations**Solve each equation. Check your solutions.**

1. $\frac{1}{2-j} + 2 = \frac{4}{2-j}$

2. $\frac{8}{c+2} - 6 = \frac{4}{c+2}$

3. $\frac{3}{2p-2} - 1 = \frac{4}{p-1} + 2$

4. $\frac{2}{x-2} + \frac{3}{4} = \frac{2}{x-2}$

5. $\frac{5}{d+2} + \frac{d}{5} = \frac{d+5}{5}$

6. $-\frac{3}{a} - \frac{3}{a-3} = \frac{3}{2}$

7. $\frac{4}{n} - 1 = \frac{2}{n+2} - 1$

8. $\frac{x}{x-3} + \frac{2}{x+3} = 1$

9. $\frac{p+7}{p+2} - 2 = \frac{2-p}{p+4}$

10. $\frac{2}{p+3} = \frac{7}{28p}$

11. $\frac{a}{a+6} = \frac{2}{a+6}$

12. $\frac{-6}{4-d} = \frac{2d}{d-2}$

13. It takes you about an hour to make one batch of cookie dough and your brother about 42 minutes to make one batch. How much time does it take you to make a batch of cookie dough together?

14. Your dad can clean the house in 2 hours and 10 minutes. Your mom can clean it in an hour and 45 minutes. How many hours does it take them to clean the house if they work together?

Solve each equation. Check your solutions. If there is no solution, write *no solution*.

15. $\frac{x-1}{x+2} + \frac{4x}{2x^2-2x-12} = 2$

16. $\frac{t-1}{3t^2-t-2} - \frac{2t-3}{3t+2} = \frac{-4}{2t-2}$

17. $\frac{2-2p}{p^2-6p+8} + \frac{3p}{p-4} = \frac{p}{p-2}$

18. $\frac{d-4}{d+4} = \frac{4+d}{d-2} - \frac{d+8}{d^2+2d-8}$

11-5 Practice (continued)

Form G

Solving Rational Equations

- 19.** It takes you 12 hours to paint a house, your brother 14 hours, and your sister 10 hours. If all three of you work together, how long will it take you to paint the house?

- 20.** Maria, LaShawn, and Mike are all students. It takes Maria 8 hours to write half of her paper for history class. It takes LaShawn $2x$ hours to write one third of her paper, and Mike takes $(x - 2)$ hours to write half of his paper. If the teacher tells them they can work on the paper as a group, how long will it take them to complete it?

- 21. Error Analysis** Edward solved the rational equation

$\frac{3x(x-2)}{x} - x\left(\frac{96}{3x}\right) = 3x\left(\frac{1}{3}\right)$ and got an answer of $x = -19$. What was his mistake?

- 22. Writing** Write a rational equation that has $n = 10$ for the answer. Include at least 3 terms in your equation, one of which should be a quadratic equation or a perfect square.

- 23.** A pool has 2 pipes, one to fill it and one to empty it. Ms. Simon wants to fill the pool, but she mistakenly turns on both pipes at the same time. The pipe that fills the pool can fill it in 6 hours and the one that drains it can do that job in 10 hours. How long will it take to fill the pool now that both pipes are filling and emptying it at the same time?

- 24.** What is the LCD of the equation $\frac{t(t-2)}{2t-3} - 4\left(\frac{1}{t}\right) = 5t - \frac{3(t+4)}{t+1}$?

Solve each equation. Check your solutions.

25. $\frac{c}{c+4} + \frac{3}{c-3} = \frac{16}{c^2 + c - 12}$

26. $\frac{12}{y+1} - \frac{(y+4)(y-4)}{y-2} = -1$

Simplify each rational expression COMPLETELY. State the excluded values.

1. $\frac{3a^2b^3}{12a^4b}$

2. $\frac{a^2-7a+10}{a^2-6a+8}$

ANSWERS

1) _____

2) _____

Find each product and simplify COMPLETELY.

3. $\frac{25a^2b}{5b^2c} \cdot \frac{b}{a}$

4. $\frac{2x+2}{x^2-4x+3} \cdot \frac{x-1}{6x+6}$

3) _____

4) _____

5. $\frac{x^2-2x-15}{x^4} \cdot \frac{x^3}{x+3}$

6. $\frac{2d^2-d-6}{6d^2+11d+3} \cdot \frac{3d^2-8d-3}{d^2+4d-12}$

5) _____

6) _____

Find each quotient and simplify COMPLETELY.

7. $\frac{12a^4}{xy^2} \div \frac{4a^3}{xy}$

8. $\frac{7x+7}{x-1} \div \frac{x^2+7x+6}{2x-2}$

7) _____

8) _____

Find each sum or difference and simplify COMPLETELY.

9. $\frac{4}{y} - \frac{5y}{2}$

10. $\frac{5x+1}{2x^2-x-6} - \frac{3x-2}{2x^2-x-6}$

9) _____

10) _____

11. $\frac{4}{5x^2} + \frac{3}{2x}$

12. $\frac{3}{a-2} - \frac{2}{a+4}$

11) _____

12) _____

Solve each equation. Check your solutions. State any extraneous solutions you had to discard.

13. $\frac{1}{2-a} + 2 = \frac{4}{2-a}$

14. $\frac{8}{x+3} = \frac{1}{x} + 1$

13. _____

14) _____

15. $\frac{2}{x-2} + \frac{1}{4} = \frac{3}{x-2}$

16. $-\frac{2}{a} - \frac{4}{a-3} = \frac{3}{2}$

15) _____

16) _____

17. $\frac{3}{a} - 1 = \frac{2}{a+2} - 2$

18. $\frac{c+2}{c} - \frac{4}{3c} = 11$

17) _____

18) _____

19. $\frac{2}{b} + \frac{1}{b^2} + \frac{b^2+b}{b^3} = \frac{1}{b}$

20. $\frac{3w+5}{4w^2} = \frac{1}{w^2} - \frac{w-3}{4w^2}$

19) _____

20) _____

Bonus

$$\frac{\frac{x+5}{x^2-4x-21}}{\frac{2x^2+13x+15}{x^2-49}}$$

BONUS: _____

Simplify each rational expression COMPLETELY. State the excluded values.

1. $\frac{5a^3b^6}{15a^4b}$

2. $\frac{a^2-6a+8}{a^2+3a-10}$

ANSWERS

1) _____

2) _____

Find each product and simplify COMPLETELY.

3. $\frac{24a^3b}{4b^5c} \cdot \frac{b}{a}$

4. $\frac{5x+5}{x^2-6x+5} \cdot \frac{x-1}{10x+10}$

3) _____

4) _____

5. $\frac{x^2-x-20}{x^5} \cdot \frac{x^2}{x+4}$

6. $\frac{2d^2-d-6}{6d^2+11d+3} \cdot \frac{3d^2-5d-2}{d^2+2d-8}$

5) _____

6) _____

Find each quotient and simplify COMPLETELY.

7. $\frac{15a^2}{xy^3} \div \frac{3a^5}{xy}$

8. $\frac{8x+8}{x-2} \div \frac{x^2+9x+8}{5x-10}$

7) _____

8) _____

Find each sum or difference and simplify COMPLETELY.

9. $\frac{5}{y} - \frac{3y}{2}$

10. $\frac{8x+1}{2x^2-x-6} - \frac{6x-2}{2x^2-x-6}$

9) _____

10) _____

11. $\frac{4}{5y^2} + \frac{2}{3y}$

12. $\frac{4}{a-3} - \frac{3}{a+5}$

11) _____

12) _____

Solve each equation. Check your solutions. State any extraneous solutions you had to discard.

13. $\frac{1}{2-a} + 3 = \frac{2}{2-a}$

14. $\frac{7}{x+2} = \frac{1}{x} + 1$

13. _____

14) _____

15. $\frac{3}{x-2} + \frac{1}{4} = \frac{2}{x-2}$

16. $-\frac{2}{x} - \frac{3}{x-3} = \frac{1}{2}$

15) _____

16) _____

17. $\frac{2}{a} - 2 = \frac{3}{a+2} - 2$

18. $\frac{c+2}{c} - \frac{4}{3c} = 10$

17) _____

18) _____

19. $\frac{2}{b} = \frac{1}{2b^2} + \frac{b^2+b}{b^3}$

20. $\frac{3w+5}{4y^2} = \frac{1}{y^2} - \frac{w-3}{4y^2}$

19) _____

20) _____

Bonus

$$\frac{\begin{array}{r} x+4 \\ \hline x^2-x-42 \\ \hline 2x^2+11x+12 \\ \hline x^2-36 \end{array}}$$

BONUS: _____

Simplify each rational expression COMPLETELY. State the excluded values.

1. $\frac{5a^3b^2}{50a^5b}$

2. $\frac{a^2 - 5a + 6}{a^2 - 8a + 15}$

ANSWERS

1) _____

2) _____

3) _____

4) _____

5) _____

6) _____

Find each product and simplify COMPLETELY.

3. $\frac{15a^2b}{3b^2c} \cdot \frac{b}{a}$

4. $\frac{3x+3}{x^2-3x+2} \cdot \frac{x-2}{5x+5}$

5. $\frac{x^2+x-12}{x^3} \cdot \frac{x^2}{x+4}$

6. $\frac{2b^2-b-6}{6b^2+11b+3} \cdot \frac{3b^2-5b-2}{b^2+2b-8}$

7) _____

8) _____

Find each quotient and simplify COMPLETELY.

7. $\frac{6a^3}{xy^2} \div \frac{3a^2}{xy}$

8. $\frac{4x+4}{x-1} \div \frac{x^2+5x+4}{3x-3}$

9) _____

10) _____

11) _____

12) _____

Find each sum or difference and simplify COMPLETELY.

9. $\frac{5}{x} - \frac{3x}{4}$

10. $\frac{6x+6}{3x^2+x-4} - \frac{3x+2}{3x^2+x-4}$

11. $\frac{4}{3x^2} + \frac{5}{2x}$

12. $\frac{3}{a-3} - \frac{2}{a+2}$

Solve each equation. Check your solutions. State any extraneous solutions you had to discard.

$$13. \frac{1}{2-j} + 2 = \frac{4}{2-j}$$

$$14. \frac{3}{2p-2} - 1 = \frac{4}{p-1} + 2$$

13. _____

14) _____

$$15. \frac{2}{x-2} + \frac{3}{4} = \frac{2}{x-2}$$

$$16. -\frac{3}{a} - \frac{3}{a-3} = \frac{3}{2}$$

15) _____

16) _____

$$17. \frac{4}{n} - 1 = \frac{2}{n+2} - 1$$

$$18. \frac{p+7}{p+2} - 2 = \frac{2-p}{p+4}$$

17) _____

18) _____

$$19. \frac{3}{m^2} = \frac{m-4}{3m^2} + \frac{2}{3m^2}$$

$$20. \frac{3n+5}{4n^2} = \frac{1}{n^2} - \frac{n-3}{4n^2}$$

19) _____

20) _____

Bonus

$$\frac{\frac{x+2}{x^2-x-20}}{2x^2+7x+6} \div \frac{x^2-16}{x^2-16}$$

BONUS: _____

12-2 Practice

Form G

Frequency and Histograms

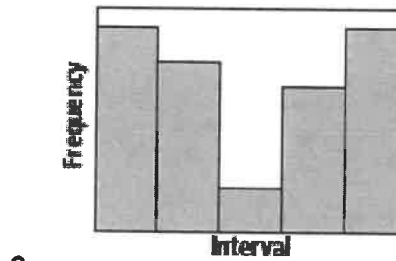
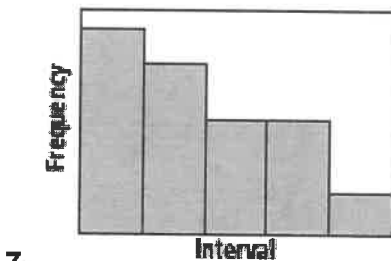
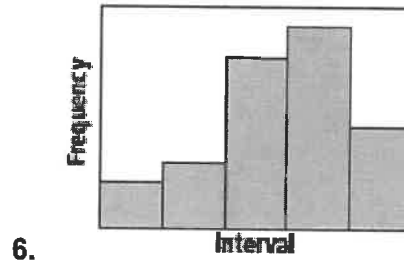
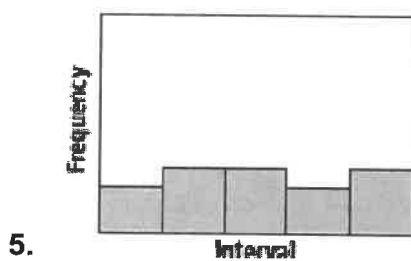
Use the data to make a frequency table.

1. runs per game: 5 4 3 6 1 9 3 4 2 2 0 7 5 1 6
2. weight (lb): 10 12 6 15 21 11 12 9 11 8 8 13 10 17

Use the data to make a histogram.

3. number of pages: 452 409 355 378 390 367 375 514 389 438 311 411 376
4. price per yard: \$9 \$5 \$6 \$4 \$8 \$9 \$12 \$7 \$10 \$4 \$5 \$6 \$6 \$7

Tell whether each histogram is *uniform*, *symmetric*, or *skewed*.



12-2 Practice (continued)

Frequency and Histograms

Form G

Use the data to make a cumulative frequency table.

9. call length (min): 3 5 12 39 12 3 15 23 124 2 1 1 7 19 11 6

10. package weight (kg): 1.25 3.78 2.2 12.78 3.15 4.98 3.45 9.1 1.39

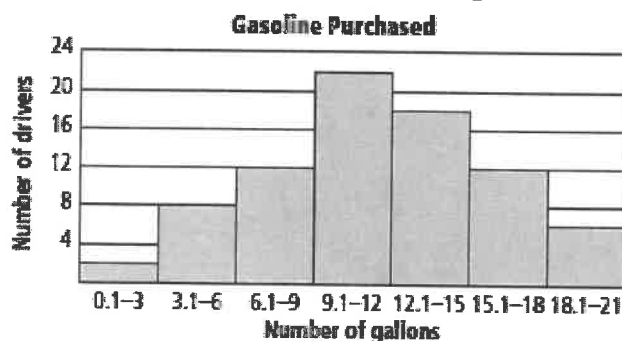
Use the snowfall amounts, in inches, below.

10 2.5 1.5 3 6 8.5 9 12 2 0.5 1 3.25 5 6.5 10.5 4.5 8 8.5

11. What is a histogram of the data that uses intervals of 2?

12. What is a histogram of the data that uses intervals of 4?

The amount of gasoline that 80 drivers bought to fill their cars' gas tanks is shown.



13. Which interval represents the greatest number of drivers?

14. How many drivers bought more than 12 gallons?

15. How many drivers bought 9 gallons or less?

12-3 Practice

Form G

Measures of Central Tendency and Dispersion

Find the mean, median, and mode of each data set. Explain which measure of central tendency best describes the data.

1. touchdowns scored:

1 3 4 4 3

2. distance from school (mi):

0.5 3.9 4.1 5 3

3. average speed (mi/hr):

36 59 47 56 67

4. price per pound:

\$30 \$8 \$2 \$5 \$6

5. daily high temperature (°F):

74 69 78 80 92

6. number of volunteers:

24 22 35 19 35

Find the value of x such that the data set has the given mean.

7. 11, 12, 5, 3, x ; mean 7.4

8. 55, 60, 35, 90, x ; mean 51

9. 6.5, 4.3, 9.8, 2.2, x ; mean 4.8

10. 100, 112, 98, 235, x ; mean 127

11. 1.2, 3.4, 6.7, 5.9, x ; mean 4.0

12. 34, 56, 45, 29, x ; mean 40

13. One golfer's scores for the season are 88, 90, 86, 89, 96, and 85. Another golfer's scores are 91, 86, 88, 84, 90, and 83. What are the range and mean of each golfer's scores? Use your results to compare the golfers' skills.

Find the range and mean of each data set. Use your results to compare the two data sets.

14. Set A: 5 4 7 2 8

Set B: 3 8 9 2 0

15. Set C: 1.2 6.4 2.1 10 11.3

Set D: 8.2 0 3.1 6.2 9

16. Set E: 12 12 0 8

Set F: 1 15 10 2

17. Set G: 22.4 20 33.5 21.3

Set H: 6.2 15 50.4 28

18. The heights of a painter's ladders are 12 ft, 8 ft, 4 ft, 3 ft, and 6 ft. What are the mean, median, mode, and range of the ladder heights?

12-3 Practice (continued)

Form G

Measures of Central Tendency and Dispersion

Find the mean, median, mode, and range of each data set after you perform the given operation on each data value.

19. 4, 7, 5, 9, 5, 6; add 1

20. 23, 21, 17, 15, 12, 11; subtract 3

21. 1.1, 2.6, 5.6, 5, 6.7, 6; add 4.1

22. 5, 2, 8, 6, 11, 1; divide by 2

23. 12.1, 13.6, 10, 9.7, 13.2, 14; divide by 0.5

24. 3.2, 4.4, 6, 7.8, 3, 2; subtract -4

25. The lengths of Ana's last six phone calls were 3 min, 19 min, 2 min, 44 min, 120 min, and 4 min. Greg's last six phone calls were 5 min, 12 min, 4 min, 80 min, 76 min, and 15 min. Find the mean, median, mode, and range of Ana's calls and Greg's calls. Use your results to compare each person's phone call habits.

26. The table shows a basketball player's scores in five games. How many points must the basketball player score in the next game to achieve an average of 13 points per game?

Game	Points
Westlake	10
Davis	14
Mason	8
Leeberg	18
Warren	11

27. You and a friend weigh your loaded backpack every day for a week. The results are shown in the table. Find the mean, median, mode, and range of the weights of your backpack and your friend's backpack. Use your results to compare the backpack weights.

Day	Weight (lbs)	
	Yours	Friend
Monday	13.5	12.6
Tuesday	12.2	13
Wednesday	13.2	12.8
Thursday	11.6	11.6
Friday	10.5	12.5

28. Over six months, a family's electric bills averaged \$55 per month. The bills for the first five months were \$57.60, \$60, \$53.25, \$50.75, and \$54.05. What was the electric bill in the sixth month? Find the median, mode, and range of the six electric bills.

Name _____ Class _____ Date _____

12-4 Practice

Box-and-Whisker Plots

Form G

Find the minimum, first quartile, median, third quartile, and maximum of each data set.

1. 220 150 200 180 320 330 300

2. 14 18 12 17 14 19 18

3. 33.2 45.1 22.3 76.7 41.9 39 32.2

4. 5 8 9 7 11 4 9 4

5. 1.4 0.2 2.3 1.0 0.8 2.4 0.9 2.1

6. 90 47 88 53 59 72 68 62 79

Make a box-and-whisker plot to represent each set of data.

7. snack prices: \$0.99 \$0.85 \$1.05 \$3.25 \$1.49 \$1.35 \$2.79 \$1.99

8. ticket buyers: 220 102 88 98 178 67 42 191 89

9. marathon race finishers: 3,869 3,981 3,764 3,786 4,310 3,993 3,258

10. winning times (min): 148 148 158 149 164 163 149 156

11. ticket prices: \$25.50 \$45 \$24 \$32.50 \$32 \$20 \$38.50 \$50 \$45

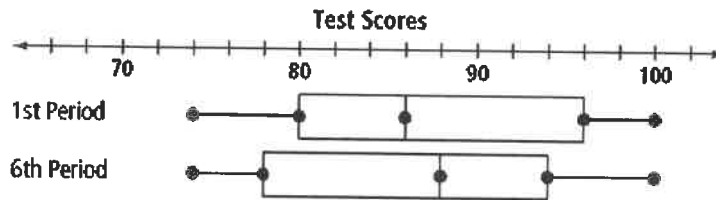
12. head circumference (cm): 60.5 54.5 55 57.5 59 58.5 58.5 57 56.75 57

12-4 Practice (continued)

Box-and-Whisker Plots

Form G

13. Use the box-and-whisker plot below. What does it tell you about the test scores in each class? Explain.



14. Of 200 golf scores during a city tournament, 32 are less than or equal to 90. What is the percentile rank of a score of 90?
15. Of 25 dogs, 15 weigh more than 35 pounds. What is the percentile rank of a dog that weighs 35 pounds?
16. The table shows how many votes each student who ran for class president received. What is Li's percentile rank?

Student	Votes
Brooke	112
Li	100
Suman	118
Greg	98
Grace	98

17. Ten students earned the following scores on a test: 89, 90, 76, 78, 83, 88, 91, 93, 96, and 90. Which score has a percentile rank of 90? Which score has a percentile rank of 10?

Make box-and-whisker plots to compare the data sets.

18. Test scores:

Andrew's: 79 80 87 87 99 94 77 86

Dipak's: 93 79 78 82 91 87 80 99

19. Monthly sales:


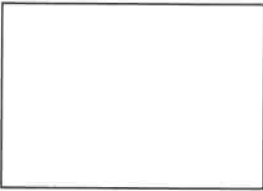
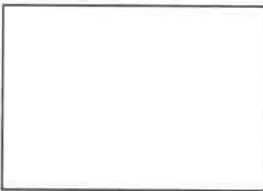
Kiera's: 17 50 26 39 6 49 62 40 8

Paul's: 18 47 32 28 12 49 60 28 15

Name: _____ Date: _____ Per.: _____

Chap 12 RWS

Make 3 histograms that are: Symmetric, Skewed, and Uniform.


1. 	2. 	3. 
1. <u>Symmetric</u>	2. <u>Skewed</u>	3. <u>Uniform</u>

4. Use the data to make a frequency table.

Nascar speeds: 130, 120, 30, 50, 250, 176, 80, 225, 98, 185, 200

5. Use the data to make a histogram.

MPG for cars: 12, 5, 14, 3, 16, 21, 25, 3, 18, 29, 34, 37, 21, 10



Name: _____ Date: _____ Per.: _____

Chap 12 RWS

6. Use the data to make a cumulative frequency table.

Distance run: 8, 19, 2, 4, 3, 8, 10, 1, 2, 5, 3, 10, 20, 8, 15, 18, 6, 5, 18

7. Find the mean _____, median _____, and mode _____ of the data set. Tell which measure of central tendency best describes the data. _____

12, 18, 19, 10, 12, 15, 15, 17

8. Find the value of x such that the data set has the given mean. _____

85, 70, 83, 78, x ; Mean = 80

9. Find the minimum, first quartile, median, third quartile, and maximum of the data set.

38, 54, 28, 33, 30, 42, 36, 44, 50

10. Make a box and whisker plot to represent the set of data. What is the interquartile range?

328 322 448 274 445 539 272 230 266 434

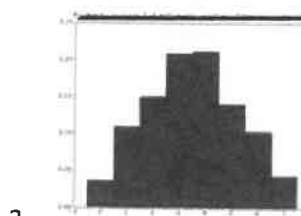
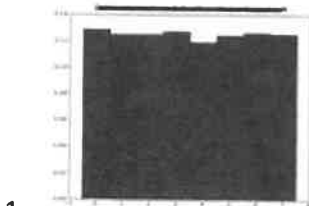
11. Students taking a make-up test receive the following grades:

63, 78, 82, 71, 93, 91, 80, 69, 84, and 50. Which grade has a percentile rank of 70? _____

PARENT SIGNATURE INDICATING STUDENT TOOK TEST WITHOUT ANY RESOURCES OTHER THAN A CALCULATOR _____
 Name: _____ Date: _____ Per.: _____

Chap 12 Test

Label the following histograms symmetric, skewed, or uniform.



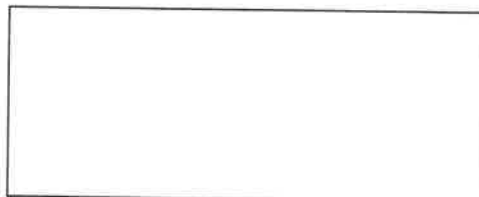
1. _____ 2. _____ 3. _____

4. Use the data to make a frequency table.

Marathon times (min): 135 211 220 180 175 161 246 201 192 167 235 208

5. Use the data to make a histogram.

Restaurant waiting times (min) 20 35 15 25 5 10 40 30 10 50 20 60 10 8



PARENT SIGNATURE INDICATING STUDENT TOOK TEST WITHOUT ANY RESOURCES OTHER THAN A CALCULATOR _____

Name: _____ Date: _____ Per.: _____

Chap 12 Test

6. Use the data to make a CUMULATIVE frequency table.

Trail lengths (mi) 4 1 5 2 1 3 7 12 6 3 11 9 2 1 3 4 1 2 5 3 1 1

7. Find the mean _____, median _____, and mode _____ of each data set. Tell which measure of central tendency best describes the data. _____

Ages of students on math team: 14 14 15 15 16 15 15 16

8. Find the value of x such that the data set has the given mean. _____
99, 86, 76, 95, x ; mean 91

9. Find the minimum, first quartile, median, third quartile, and maximum of the data set.
55 53 67 52 50 49 51 52 52 _____

10. Make a box and whisker plot to represent the set of data. What is the interquartile range? _____
Song lengths (s): 227 221 347 173 344 438 171 129 165 333

11. Students taking a make-up test receive the following grades:
77, 89, 88, 67, 91, 95, 83, 79, 81, and 65. Which grade has a percentile rank of 70? _____

10-2 Practice

Simplifying Radicals

Form G

Simplify each radical expression.

1. $\sqrt{169}$

2. $\sqrt{200}$

3. $\sqrt[3]{125}$

4. $-5\sqrt{112}$

5. $\sqrt{68}$

6. $3\sqrt{121}$

7. $\sqrt{63t^4}$

8. $\sqrt{48n^3}$

9. $-\sqrt{60m^7}$

10. $x\sqrt{150x^5}$

11. $-3\sqrt{45y^3}$

12. $-2b\sqrt{136b^2}$

Simplify each product.

13. $\sqrt{6} \cdot \sqrt{30}$

14. $\sqrt{5} \cdot \sqrt{70}$

15. $2\sqrt{3} \cdot \sqrt{96}$

16. $-4\sqrt{7} \cdot \sqrt{42}$

17. $\sqrt{4a} \cdot \sqrt{12a^5}$

18. $\sqrt{2n^2} \cdot \sqrt{30n}$

19. $-3\sqrt{40x} \cdot 2\sqrt{55x^5}$

20. $\frac{3}{4}\sqrt{12t^3} \cdot \sqrt{20t^3}$

21. $4\sqrt{14a^2} \cdot \frac{1}{2}\sqrt{28a^3}$

22. A pool is shaped like a rectangle with a length 4 times its width w . What is an expression for the distance between opposite corners of the pool?
23. Evelyn rode her horse along a triangular path. The distance she traveled south was five times the distance she traveled east. Then she rode directly back to her starting point. What is an expression for the total distance she rode?

10-2 Practice (continued)

Simplifying Radicals

Form G

Simplify each radical expression.

24. $\sqrt{\frac{36}{49}}$

25. $\sqrt{\frac{81}{16}}$

26. $\sqrt{\frac{100}{225}}$

27. $\sqrt{\frac{18y}{36y^3}}$

28. $\sqrt{\frac{40x^5}{25x}}$

29. $\sqrt{\frac{16a^2}{4b^4}}$

30. $\frac{\sqrt{5}}{\sqrt{2}}$

31. $\frac{\sqrt{12}}{\sqrt{15}}$

32. $\frac{\sqrt{72}}{\sqrt{40}}$

33. $\frac{\sqrt{25b}}{\sqrt{5b^3}}$

34. $\frac{\sqrt{24}}{\sqrt{3n}}$

35. $\frac{\sqrt{8}}{\sqrt{30m^2}}$

36. You are making a mosaic design on a square table top. You have already covered half of the table top with 150 1-inch square tile pieces.
- What are the dimensions of the table top?
 - What is the measure of the diagonal from one corner to the opposite corner of the table top?
37. The equation $r = \sqrt{\frac{SA}{4\pi}}$ gives the radius r of a sphere with surface area SA . What is the radius of a sphere with the given surface area? Use 3.14 for π .
- 1256 in²
 - 200.96 cm²
 - 379.94 ft²
38. **Open-Ended** What are three radical expressions that simplify to $2\sqrt{3}$?

10-2 Practice

Form G

Simplifying Radicals**Simplify each radical expression.**

1. $\sqrt{169}$

2. $\sqrt{200}$

3. $\sqrt[3]{125}$

4. $-5\sqrt{112}$

5. $\sqrt[3]{58}$

6. $3\sqrt[3]{121}$

7. $\sqrt[3]{63t^4}$

8. $\sqrt[3]{48n^5}$

9. $-\sqrt[3]{60m^7}$

10. $x\sqrt{150x^5}$

11. $-3\sqrt{45y^3}$

12. $-2b\sqrt{136b^2}$

Simplify each product.

13. $\sqrt{6} \cdot \sqrt{30}$

14. $\sqrt{5} \cdot \sqrt{70}$

15. $2\sqrt{3} \cdot \sqrt{96}$

16. $-4\sqrt{7} \cdot \sqrt{42}$

17. $\sqrt{4a} \cdot \sqrt{12a^5}$

18. $\sqrt{2n^2} \cdot \sqrt{30n}$

19. $-3\sqrt{40x} \cdot 2\sqrt{55x^5}$

20. $\frac{3}{4}\sqrt{12t^3} \cdot \sqrt{20t^8}$

21. $4\sqrt{14a^2} \cdot \frac{1}{2}\sqrt{28a^3}$

22. A pool is shaped like a rectangle with a length 4 times its width w . What is an expression for the distance between opposite corners of the pool?
23. Evelyn rode her horse along a triangular path. The distance she traveled south was five times the distance she traveled east. Then she rode directly back to her starting point. What is an expression for the total distance she rode?

10-2 Practice (continued)

Simplifying Radicals

Form G

Simplify each radical expression.

24. $\sqrt{\frac{36}{49}}$

25. $\sqrt{\frac{81}{16}}$

26. $\sqrt{\frac{100}{225}}$

27. $\sqrt{\frac{18y}{36y^3}}$

28. $\sqrt{\frac{49x^5}{25x}}$

29. $\sqrt{\frac{16a^2}{4b^4}}$

30. $\frac{\sqrt{5}}{\sqrt{2}}$

31. $\frac{\sqrt{12}}{\sqrt{15}}$

32. $\frac{\sqrt{72}}{\sqrt{40}}$

33. $\frac{\sqrt{25b}}{\sqrt{5b^3}}$

34. $\frac{\sqrt{24}}{\sqrt{3n}}$

35. $\frac{\sqrt{8}}{\sqrt{30m^2}}$

36. You are making a mosaic design on a square table top. You have already covered half of the table top with 150 1-inch square tile pieces.
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38. **Open-Ended** What are three radical expressions that simplify to $2\sqrt{3}$?