Algebra 1B

Zimmerman

Week 5 & 6

Apr 27 – May 8

Name _____ Class _____ Date _____

10-2 Practice

Form G

Simplifying Radicals

Simplify each radical expression.

1. $\sqrt{169}$
2. $\sqrt{200}$
3. $\sqrt{125}$
4. $-5\sqrt{112}$
5. $\sqrt{68}$
6. $3\sqrt{121}$
7. $\sqrt{63t^4}$
8. $\sqrt{48m^3}$
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. $-3\sqrt{40x} \cdot 2\sqrt{66x^5}$
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?

Name _____ Class _____ Date _____

10-2 Practice (continued) Form G

Simplifying Radicals

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.

a. What are the dimensions of the table top?

b. 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.

a. 1256 in^2. **b.** 200.96 cm^2 **c.** 379.94 ft^2

38. Open-Ended What are three radical expressions that simplify to $2x\sqrt{3}$?

RWS Mid Ch. 10

Name _____
Date _____ Period _____

Simplify each radical completely.

1. $\sqrt{200}$

2. $\sqrt{63m^5n}$

3. $\sqrt{56}$

4. $\sqrt{125x^5y^3z^8}$

5. $\sqrt{360}$

6. $\sqrt{23x^6y^2}$

7. $\sqrt{\frac{4}{3}}$

8. $\sqrt{\frac{16}{40y}}$

9. $\frac{2}{3-\sqrt{15}}$

10. $\frac{1}{5+\sqrt{3}}$

Answers

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. $8\sqrt{6}-2\sqrt{3}+5\sqrt{3}$

12. $3\sqrt{8}-2\sqrt{3}$

13. $7\sqrt{27}+4\sqrt{20}$

14. $3\sqrt{54}-5\sqrt{27}+7\sqrt{45}$

15. $3\sqrt{10x}-10\sqrt{10x}$

16. $8\sqrt{12}-\sqrt{27}$

17. $\sqrt{14}-\sqrt{\frac{2}{7}}$

18. $\sqrt{5}\left(\sqrt{6}+4\right)$

19. $\left(\sqrt{3}+6\right)^2$

20. $\left(\sqrt{5}+\sqrt{6}\right)\left(\sqrt{6}+\sqrt{5}\right)$

Answers

11. _____

12. _____

13. _____

14. _____

15. _____

16. _____

17. _____

18. _____

19. _____

20. _____

BONUS: $\left(3\sqrt{2}+4\sqrt{3}\right)\left(4\sqrt{5}+6\sqrt{6}\right)$

BONUS: _____

Algebra 1
RWS B Mid Ch. 10

Name _____
Date _____ **Period** _____

Simplify.

1. $\sqrt{162}$

2. $\sqrt{20ab^4}$

3. $\sqrt{8} \bullet \sqrt{10}$

4. $\dfrac{\sqrt{9}}{\sqrt{18}}$

5. $\sqrt{\dfrac{60}{a}}$

6. $\sqrt{\dfrac{3}{8}}$

7. $\sqrt{99}$

8. $\sqrt{20}+2\sqrt{5}$

9. $3\sqrt{6}+3\sqrt{2}-\sqrt{50}+\sqrt{24}$

10. $\sqrt{72}+\sqrt{40}-\sqrt{50}$

11. $\sqrt{6}(\sqrt{3}-2\sqrt{6})$

12. $(\sqrt{8}-\sqrt{2})(\sqrt{3}+\sqrt{6})$

13. $\dfrac{\sqrt{4}}{3-\sqrt{5}}$

14. $\sqrt{\dfrac{9ab}{4ab^4}}$

15. $\sqrt{\dfrac{2}{3}}+3\sqrt{3}-4\sqrt{\dfrac{1}{12}}$

16. $\left(3+\sqrt{6}\right)^2$

17. $\dfrac{8}{\sqrt{5}-4}$

18. $\sqrt{20c^5d^4}$

19. $\sqrt{180}-5\sqrt{5}+\sqrt{20}$

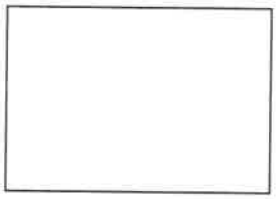
20. $(\sqrt{8}+\sqrt{2})(\sqrt{5}+\sqrt{3})$

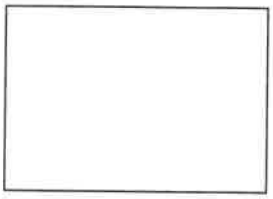
21. $(3\sqrt{3}+2\sqrt{5})(4\sqrt{2}+5\sqrt{6})$

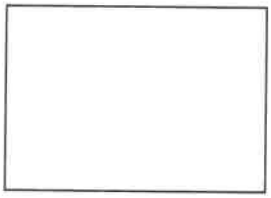
Name:_____Date:_____Per.:_____

Chap 12 RWS

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

1. 

2. 

3. 

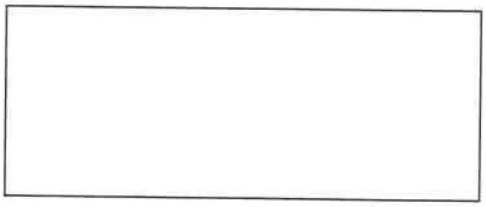
1. Symmetric

2. Skewed

3. Uniform

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?

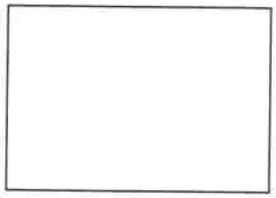
328 322 448 274 445 539 272 230 266 434

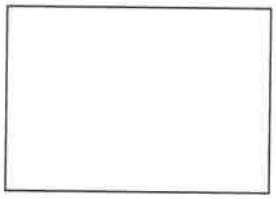
11. Students taking a make-up test receive the following grades:
63, 78, 82, 71, 93, 91, 80, 69, 84, and 50. Which grade has a percentile rank of 70? _____

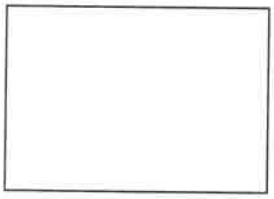
Name:_____ Date:_____ Per.:_____

Chap 12 RWS B

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

1. 

2. 

3. 

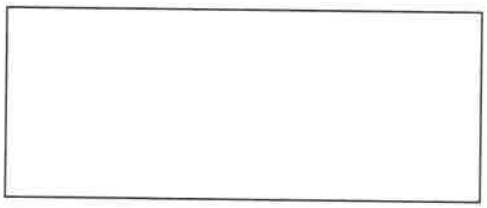
1. Skewed

2. Uniform

3. Symmetric

4. Use the data to make a frequency table.
Nascar speeds: 132, 121, 35, 52, 251, 173, 82, 224, 97, 186, 208

5. Use the data to make a histogram.
MPG for cars: 11, 7, 15, 8, 17, 23, 27, 9, 19, 28, 36, 35, 23, 15



Name:_____Date:_____Per.:_____

Chap 12 RWS B

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

Distance run: 9, 18, 3, 2, 5, 9, 12, 1, 2, 4, 7, 15, 21, 7, 16, 19, 7, 8, 19

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? _____

Name _____ Class _____ Date _____

12-4 Practice

Form G

Box-and-Whisker Plots

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

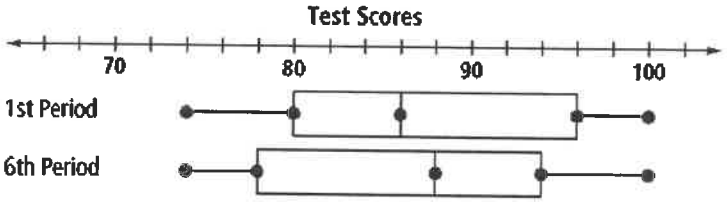
Name _____ Class _____ Date _____

12-4 Practice (continued)

Form G

Box-and-Whisker Plots

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

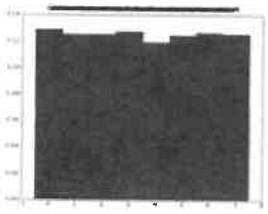
19. Monthly sales:
Kiera's: 17 50 26 39 6 49 62 40 8
Paul's: 18 47 32 28 12 49 60 28 15

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

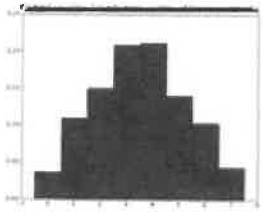
Name:_____Date:_____Per.:_____

Chap 12 Test

Label the following histograms symmetric, skewed, or uniform.

1. 

2. 

3. 

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? _____