Unit Six Study Guide

Name: _____

1. Round 23,835 to the nearest hundred.

3. Round 15.82 to the nearest tenth.

2. Write $\frac{5}{25}$ as a decimal and as a percent.

4. Change $6\frac{2}{3}$ to an improper fraction.

5. Which is the definition for the median of a data set?

    [A] largest value   [B] middle value   [C] smallest value   [D] most frequent value

6. Which is the definition for the maximum of a data set?

    [A] smallest value   [B] middle value   [C] largest value   [D] most frequent value

7. Which is the definition for the mode of a data set?

    [A] largest value   [B] most frequent value   [C] middle value   [D] smallest value

8. Which is the definition for the minimum of a data set?

    [A] smallest value   [B] largest value   [C] most frequent value   [D] middle value

9. Cindy asked 5 girls in her fifth grade class how many CDs each owned. The results of her survey are shown below.
    2, 4, 5, 2, 4

    a. What was the median number of CDs owned?   _____CDs

    b. Cindy concluded, "The typical fifth grade student owns about 4 CDs." Do you agree with her conclusion? Explain.

    c. Describe two ways Cindy could improve her survey.

Solve.

10. $\dfrac{3}{7}+\dfrac{1}{7}=$
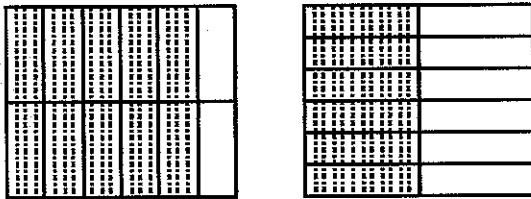
11. $\dfrac{6}{11}-\dfrac{4}{11}=$

12. $2-\dfrac{3}{4}=$

13. $\dfrac{2}{5}+\dfrac{1}{3}=$

14. $\dfrac{8}{11}-\dfrac{1}{2}=$

15. $\begin{array}{r}\dfrac{4}{7}\\[6pt]+\dfrac{5}{42}\\ \hline\end{array}$

16. $\begin{array}{r}\dfrac{3}{5}\\[6pt]-\dfrac{4}{7}\\ \hline\end{array}$

17. a. Which fraction pair is represented in the drawing below?

1 and $\dfrac{7}{12}$ $\qquad$ $\dfrac{5}{6}$ and $\dfrac{1}{2}$

$\dfrac{2}{3}$ and $\dfrac{2}{5}$ $\qquad$ $1\dfrac{1}{3}$ and $\dfrac{4}{5}$

b. Write a pair of fractions with common denominators for the figures in part (a) above.
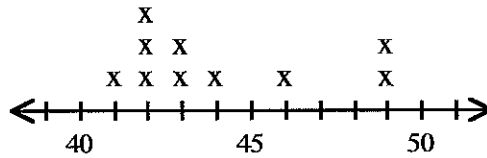
c. Explain how you would use the multiplication rule to find common denominators for the fraction pair you circled in part (a).

18. Cindy was writing a report on the activities of school students. To start, she gave a survey to 10 students in her class. The following were three of the questions:
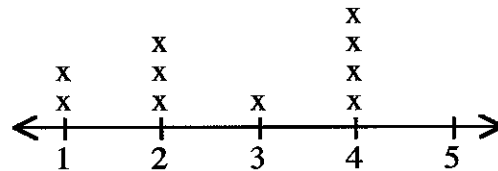
A. How many movies do you see in a year?
B. How many hours do you sleep each night?
C. How many hours do you study after school each day?

The graphs below show the answers to two of these questions.

Graph I

```
            X
            X  X                X
      X  X  X  X      X         X
   <──┼──┼──┼──┼──┼──┼──┼──┼──┼──┼──┼──>
      40          45          50
```

Graph II

```
                        X
            X           X
   X        X           X
   X        X     X     X
   <─┼──────┼─────┼─────┼─────┼─>
     1      2     3     4     5
```

a. Which question does Graph I represent? _____

b. Which question does Graph II represent? _____

19. a. Use a ruler to draw a line segment $3\frac{1}{2}$ inches long.

b. If you erased $\frac{4}{5}$ inch from this line segment, how long would it be?

_____

c. If you draw a line segment twice as long as the original line segment, how long should it be? _____

20. Which stem-and-leaf plot has a median of 42 and mode of 35?

Stem (10s)	Leaves (1s)
[A] 1	0 3 4 6
2	0 2 3 4
3	1 3 3 5

Stem (10s)	Leaves (1s)
[B] 1	0 3 4 6
2	0 5 7
3	1 3 3 5

Stem (10s)	Leaves (1s)
[C] 3	0 5 5
4	0 5 7
5	1 4

Stem (10s)	Leaves (1s)
[D] 3	0 5 5
4	0 2 3 4
5	1 4

21. The data below shows the final exam grades for Mr. Cooper's English class.

49, 35, 42, 40, 47, 22, 31, 50, 24, 30, 53, 59, 26, 28, 48

a. Explain the mistake in the stem-and-leaf plot for the exam grades.

Stem	Leaves
2	2 4 6 8
3	0 1 5
4	0 2 7 8 9
5	0 3

b. Give the correct stem-and-leaf plot for these grades.

22. Manuel and Tony each made a graph based on the survey of favorite types of animals for 5th grade students. The results of the survey were as follows:

giraffe: 10%
monkey: 50%
zebra: 40%

Manuel's Graph

Tony's Graph
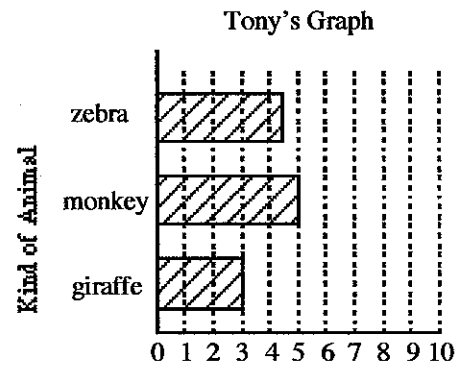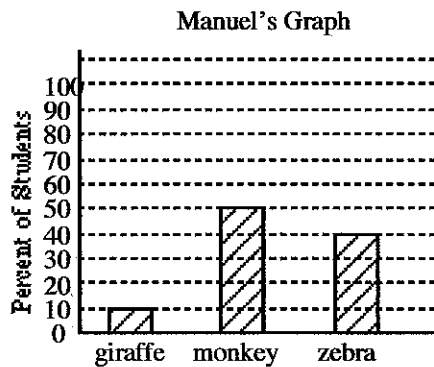
a. Whose bar graph best represents the survey results?
b. If 100 students answered the survey, how many of them chose giraffe?
c. If 10 students answered the survey, how many of them chose zebra?
d. If 50 students answered the survey, how many of them chose monkey?
e. If you were trying to choose a favorite animal for a documentary, how many 5th grade students would you interview? Explain why you chose that number.

23. Explain one way to rename $\frac{2}{5}$ as a percent without using a calculator.

24. **Mean Age**

Imagine a family of 5 people. Pretend you are one of the 5 people in the family.

The average age of this family is 21 years.

1. List the ages of all five people in the family. Describe the relationship each of the imaginary family members has to you—for example, my mom, my little sister, etc.

2. Explain how you used the mean to find the ages of the family members.

Unit Six Study Guide

Name: KEY

[1] 23,800 _____

[3] 15.8 _____

[2] 0.2; 20% _____

[4] $\dfrac{20}{3}$ _____

[5] [B] _____

[6] [C] _____

[7] [B] _____

[8] [A] _____

[9]
a. 4 CDs
b. Answers may vary.
c. Answers may vary. Sample answer: Ask more students. Ask boys and girls.

[10] $\dfrac{4}{7}$ _____

[14] $\dfrac{5}{22}$ _____

[11] $\dfrac{2}{11}$ _____

[15] $\dfrac{29}{42}$ _____

[12] $1\dfrac{1}{4}$ _____

[16] $\dfrac{1}{35}$ _____

[13] $\dfrac{11}{15}$ _____

a. $\dfrac{5}{6}$ and $\dfrac{1}{2}$

b. Sample answer: $\dfrac{10}{12}$ and $\dfrac{6}{12}$

c. Answers may vary. Sample answer: Multiply the two denominators to get a common
[17] denominator of 12.

a. Graph I is for question A.
[18] b. Graph II is for question C.

a. Check students' work. The line segment should be $3\dfrac{1}{2}$ inches long.

b. $2\dfrac{7}{10}$ inches

[19] c. 7 inches

[20] [D]

a. 59 does not appear in the stem-and-leaf plot.
b. Correct stem-and-leaf plot:

Stem	Leaves
2	2 4 6 8
3	0 1 5
4	0 2 7 8 9
[21] 5	0 3 9

a. Manuel's bar graph best represents the data.
b. 10
c. 4
d. 25
e. Answers may vary. Sample answer: All the students, as increasing the sample size would
[22] give a better estimate.

[23] Answers may vary. Sample answer: Rewrite $\dfrac{2}{5}$ as $\dfrac{40}{100}$; $\dfrac{40}{100} = 40\%$, so $\dfrac{2}{5} = 40\%$.

Sample answers:
1. Me: 10, my dad: 43, my mom: 41, my little brother: 7, my little sister: 4.
2. I used the mean by multiplying it by 5 to get the sum of all the ages in the family. $21 \times 5 = 105$. Then I subtracted 10 for my age. Next I subtracted some bigger numbers for my mom's and my dad's ages. I had 11 left, so I picked two number that added up to 11 for [24] the ages of my little brother and sister.