

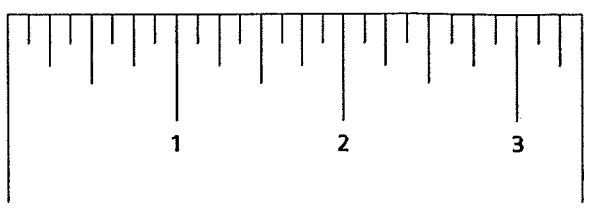
STUDY GUIDE UNIT TEST COMPARING BITS

1. Angie and Jim conducted a survey of their sixth-grade classmates in their mathematics class. They found out the following information:

- 70% of the students in the class do homework three or more nights each week.
- Of the students who do homework three or more nights each week, half do homework five nights each week.

- a. What percentage of the students in the class do homework two nights or less each week? Explain your reasoning.
 30%
- b. What fraction of the students in the class do homework five nights each week? Explain your reasoning.
 $\frac{35}{100} = \frac{7}{20}$
- c. What percentage of students in the class do homework three or four nights a week? Explain your reasoning.
 35%
- d. From the information provided, can you tell how many students are in the class? Explain why or why not.
 No

2. This sketch shows part of a ruler. The main marks indicate inches.



How should each of the marks between the inches be labeled? Explain your answer.

The marks between the inches should be labeled with eighths.
 $\frac{1}{8}, \frac{2}{8}, \frac{3}{8}, \frac{4}{8}, \frac{5}{8}, \frac{6}{8}, \frac{7}{8}$, Whole #in.

3. Arrange these decimals from smallest to largest:

- 6.00 0.56 0.060 0.6 0.056

0.056, 0.060, 0.56, 0.6, 6.00

4. Write a benchmark fraction that is close to each of these percentages:

- a. 23.6% $\frac{1}{4}$ b. 45.45% $\frac{1}{2}$

5. A bag contains 24 marbles (Note: You may want to use 24 cubes, chips, marbles, or other objects to help you solve this problem.)

- a. If 16 of the marbles are removed from the bag to play a game, what fraction of the marbles are left in the bag?
- b. Of the 16 marbles taken from the bag, one-fourth are put back in the bag. Now how many marbles are in the bag? Explain your reasoning.

a) $\frac{18}{24} = \frac{3}{4}$

b) 12 (8+4)

6. Lynette found a worm that is $\frac{2}{3}$ of the length of a fraction strip. How many worms exactly like hers would you need to put end to end that equal two times the length of the fraction strip? Explain your answer.



7. Fill in the missing parts of the table.

Fraction	Decimal	Percent
$\frac{3}{8}$	a ■	b ■
c ■	0.88	d ■
e ■	f ■	35%
$1\frac{1}{4}$	g ■	h ■
i ■	0.625	j ■
k ■	l ■	275%

a) 0.375
 b) 37.5%
 c) $\frac{88}{100} = \frac{22}{25}$
 d) 88%
 e) $\frac{35}{100} = \frac{7}{20}$
 f) 0.35
 g) 1.25
 h) 125%
 i) $\frac{5}{8}$
 j) 62.5%
 k) $\frac{275}{100} = 2\frac{75}{100} = 2\frac{3}{4}$
 l) 2.75

8. Order these numbers from least to greatest:

$1\frac{3}{4}$ $\frac{8}{3}$ $\frac{19}{10}$ $1\frac{9}{10}$ $1\frac{3}{4}$ $1\frac{19}{10}$ $1\frac{8}{3}$

9. Rename each of the decimal amounts as a fraction.

a. 0.375

$\frac{3}{8}$

b. 0.6

$\frac{6}{10} = \frac{3}{5}$

c. 0.05

$\frac{5}{100} = \frac{1}{20}$

10. For each pair of numbers, insert a less-than symbol (<), greater-than symbol (>), or an equals symbol (=) between the numbers to make a true statement.

a. $2.5 > 2\frac{2}{5}$

b. $0.65 < \frac{2}{3}$

c. $0.8 > \frac{4}{7}$

d. $\frac{5}{8} = 0.625$

e. $0.3 < \frac{3}{7}$

f. $2.1 > 1\frac{9}{10}$

g. $\frac{11}{12} < \frac{11}{11}$

h. $\frac{3}{6} = 0.5$

i. $9 > 8\frac{8}{10}$

11. There are 28 students in a math class. *There are 10 boys.*
 a. What fraction of the class is male? What percent is male? $\frac{10}{28} = \frac{5}{14} = 35.7\%$
 b. What fraction of the class is female? What percent is female? $\frac{18}{28} = \frac{9}{14} = 64.3\%$

12. Order these numbers from smallest to largest:
 $1\frac{7}{10}$ 1.833 $1\frac{15}{18}$ $1\frac{24}{15}$ $1\frac{6}{15}$
 $1\frac{7}{10}$ $1\frac{24}{15}$ $1\frac{7}{10}$ $1\frac{15}{18}$

13. For each pair of fractions, insert a less-than symbol (<), greater-than symbol (>), or an equals symbol (=) between the fractions to make the true statement.

a. $\frac{1}{2} = \frac{5}{10}$

b. $\frac{1}{3} < \frac{2}{5}$

c. $\frac{5}{12} > \frac{1}{3}$

d. $\frac{4}{5} > \frac{2}{3}$

e. $\frac{3}{4} < \frac{8}{10}$

f. $\frac{5}{8} > \frac{3}{7}$

14. Name three fractions that are equivalent to each decimal below. Explain your reasoning. Draw a picture if it helps you explain your thinking.

a. 0.60 $\frac{60}{100} = \frac{6}{10} = \frac{3}{5}$ b. 1.7 $1\frac{7}{10} = \frac{17}{10} = \frac{34}{20}$ c. 0.05 $\frac{5}{100} = \frac{1}{20} = \frac{2}{40}$

15. Name a decimal that is equivalent to each fraction below. Explain your reasoning. Draw a picture if it helps you explain your thinking.

a. $\frac{1}{2}$
0.5

b. $\frac{7}{4} = 1\frac{3}{4}$
1.75

c. $\frac{111}{20} = 5\frac{11}{20}$
5.55

d. $\frac{3}{8}$
0.375