

# T-102 Practice Exam Chapter 5 Part 1

**DO NOT use a Calculator on Part 1.**

**Classify the statement as true or false.**

1) Improper fractions are always greater than one. \_\_\_\_\_

2) The set of whole numbers is a subset of the set of fractions. \_\_\_\_\_

3) Except for zero the set of fractions is closed under division. \_\_\_\_\_

4) Fractions with different denominators can be added. \_\_\_\_\_

5)  $\frac{\sqrt{3}}{2}$  is a rational number. \_\_\_\_\_

6) The fraction  $\frac{a}{b}$  is in simplest form when "a" and "b" are relatively prime. \_\_\_\_\_

7) Draw four different figures to model  $\frac{1}{2}$ .

a)

b)

c)

d)

8) In the fraction  $\frac{c}{d}$  "c" is called the \_\_\_\_\_ and "d" is called the \_\_\_\_\_

9) Represent the fraction  $\frac{2}{5}$  using the following:

a) colored region model

b) set model

c) number line model

10) Arrange the following fractions from smallest to largest. )

$$\frac{4}{6}, \frac{2}{7}, \frac{4}{9}, \frac{1}{3}, \frac{4}{7}$$

\_\_\_\_\_

**Reduce each of the following fractions to simplest form.**

11)  $\frac{48}{120}$

\_\_\_\_\_

12)  $\frac{9x^2 - 16y^2}{3x + 4y}$

\_\_\_\_\_

13)  $\frac{27x^2y}{18xy^2}$

\_\_\_\_\_

14) Illustrate  $\frac{2}{3} \times \frac{4}{5}$  using a rectangular region. Explain your model and give a final answer.

\_\_\_\_\_

**Perform each of the following computations. Show all work. Leave your answer as a mixed number in simplest form.**

15)  $\frac{2}{3} + \frac{4}{7}$

\_\_\_\_\_

16)  $\frac{9}{10} - \frac{7}{8}$

\_\_\_\_\_

17)  $4\frac{1}{4} \cdot 2\frac{3}{4}$

\_\_\_\_\_

18)  $7\frac{1}{2} \div 1\frac{7}{8}$

\_\_\_\_\_

19)  $16\frac{1}{2} - 4\frac{3}{5}$  (Do not change to an improper fraction)

\_\_\_\_\_

20) Change  $\frac{15}{8}$  to a mixed number.

\_\_\_\_\_

21) Are  $\frac{19}{37}$  and  $\frac{57}{111}$  equal? Show work to justify your answer. \_\_\_\_\_

22) Find the additive and multiplicative inverse for each of the following.

	additive	multiplicative
a) 6	_____	_____
b) $4\frac{1}{3}$	_____	_____
c) $-\frac{4}{7}$	_____	_____

**Classify the statement as true or false. (one point each)**

23) Estimate each of the following indicating your thinking process

	estimate
a) $\frac{149}{148} + \frac{41}{14}$	_____
b) $4\frac{15}{16} - 3\frac{7}{8} + 2\frac{1}{99}$	_____
c) $25\frac{4}{9}$	_____

24) Let 2 hexagon = 1, one hexagon =  $\frac{1}{2}$ , a trapezoid =  $\frac{1}{4}$ , one rhombus =  $\frac{1}{6}$  and a triangle =  $\frac{1}{12}$ . Use the figures to model  $\frac{3}{4} + \frac{1}{6}$ . Write your answer in simplest form, that is the number represented by the least number of pieces of the same color. Explain your answer by drawing pictures.

25) In a sketch show how you would use a manipulative to compute  $\frac{2}{3} \div \frac{1}{6}$ . (2 points)



Answer Key

Testname: REVIEW CHAPTER 5 ON WEB

24)

25) 4 How many  $\frac{1}{6}$ 's are there in  $\frac{2}{3}$ ?