

### Epsilon Competency Exam

To receive the full benefit of this test, watch the student to ensure he has mastered all of the basic operations and fractions

If he demonstrates proficiency, he is ready to move on to Zeta.

If he struggles with fractions, he should begin working in Epsilon.

1)  $\frac{1}{2}$  of 24 = \_\_\_\_\_

2)  $\frac{2}{3}$  of 18 = \_\_\_\_\_

3)  $\frac{7}{8}$  of 64 = \_\_\_\_\_

Fill in the missing numbers in the numerators or denominators to make equivalent fractions.

4)  $\frac{3}{4} = \frac{\quad}{\quad} = \frac{\quad}{\quad} = \frac{3}{16}$

5)  $\frac{9}{10} = \frac{\quad}{\quad} = \frac{\quad}{\quad} = \frac{36}{\quad}$

Compare the fractions and write the correct symbol in the oval.

6)  $\frac{5}{7}$  ○  $\frac{3}{5}$

7)  $\frac{4}{8}$  ○  $\frac{3}{6}$

8)  $\frac{5}{8} \times \frac{1}{3}$

9)  $\frac{3}{9} + \frac{5}{9} =$

10)  $\frac{1}{2} + \frac{1}{4} + \frac{7}{8} =$

11)  $\frac{4}{5} - \frac{1}{3} =$

12)  $\frac{1}{3} \div \frac{1}{5} =$

13)  $\frac{4}{5} \times 2 \frac{3}{4} \times 3 \frac{1}{3} =$

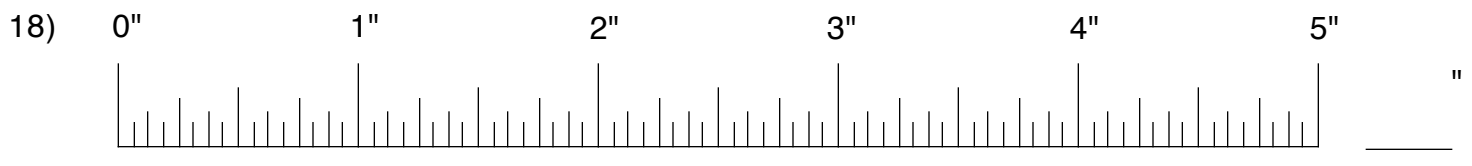
14)  $3 \frac{4}{5} \div 2 \frac{7}{25} =$

15) 
$$\begin{array}{r} 7 \frac{1}{4} \\ - 5 \frac{3}{4} \\ \hline \end{array}$$

16) 
$$\begin{array}{r} 9 \frac{2}{3} \\ + 6 \frac{5}{9} \\ \hline \end{array}$$

17) 
$$\begin{array}{r} 5 \frac{1}{5} \\ - 2 \frac{5}{6} \\ \hline \end{array}$$

How long is the line?



- 19) Five eighths of the trees in my yard are maples. If there are 16 trees in my yard, how many are maple trees?
- 20) Sophia used  $\frac{2}{5}$  of her birthday money for school supplies and  $\frac{1}{3}$  of it for gifts. What part of her birthday money has she spent so far?
- 21) Gavin saw  $\frac{3}{4}$  of a pizza on the counter. By the time he was finished eating, there was only  $\frac{1}{8}$  of a pizza left. What part of a pizza did Gavin eat?
- 22) Three eighths of the guests at the picnic ate hamburgers. One half of the people who ate hamburgers had mustard on them. What part of the people at the picnic had hamburgers with mustard?
- 23) Marcy had  $\frac{3}{4}$  of her birthday cake left over. She wants to give each of her guests  $\frac{1}{16}$  of a whole cake. How many people can she serve?
- 24) Bria has  $3\frac{1}{8}$  pounds of chocolates. If she divides them into portions that each weigh  $\frac{5}{8}$  of a pound, how many people can she treat?
- 25)  $\frac{5}{8}$  of the money was for food.  $\frac{1}{10}$  of that was used for eating out, and Rose got  $\frac{4}{5}$  of that amount for herself because she traveled a lot. What part of the total money did Rose get for eating out?

# Solutions

- 1) 12
- 2) 12
- 3) 56
- 4)  $\frac{3}{4} = \frac{6}{8} = \frac{9}{12} = \frac{12}{16}$
- 5)  $\frac{9}{10} = \frac{18}{20} = \frac{27}{30} = \frac{36}{40}$
- 6)  $\frac{25}{35} > \frac{21}{35}$
- 7)  $\frac{24}{48} = \frac{24}{48}$
- 8)  $\frac{5}{24}$
- 9)  $\frac{8}{9}$
- 10)  $1\frac{5}{8}$
- 11)  $\frac{7}{15}$
- 12)  $1\frac{2}{3}$
- 13)  $7\frac{1}{3}$
- 14)  $1\frac{38}{57}$  or  $1\frac{2}{3}$  reduced
- 15)  $1\frac{1}{2}$
- 16)  $16\frac{2}{9}$
- 17)  $2\frac{11}{30}$
- 18)  $2\frac{5}{8}$  in.
- 19) 10
- 20)  $\frac{11}{15}$
- 21)  $\frac{5}{8}$
- 22)  $\frac{3}{16}$
- 23) 12
- 24) 5
- 25)  $\frac{1}{20}$