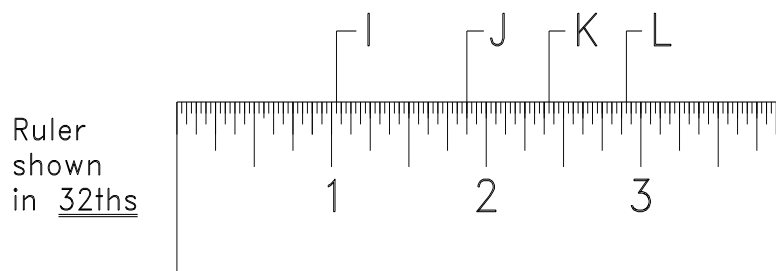
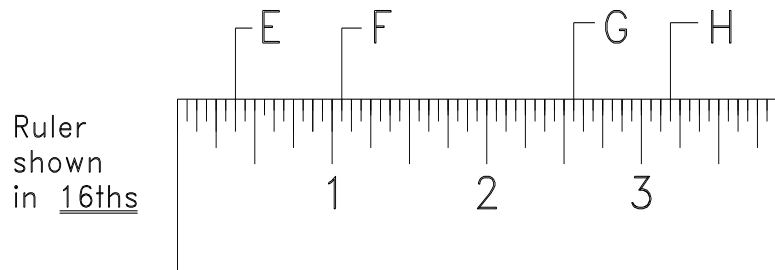
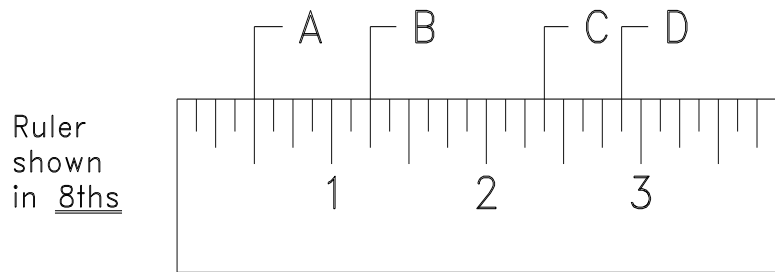


# APPRENTICE APPLICANT MATH STUDY GUIDE

## 1. APPLICATION OF LINEAR MEASUREMENT

Each rule is broken down into different increments. Starting from zero, indicate what the dimensions would be for A through L. Always *reduce* when possible.



**2. ADDITION OF WHOLE NUMBERS**

- a.  $9 + 6 =$
- b.  $28 + 6 =$
- c.  $7296 + 4357 =$
- d.  $6 + 5 + 9 + 2 + 7 + 5 =$
- e.  $48 + 768 + 27 + 2899 =$

**3. SUBTRACTION OF WHOLE NUMBERS**

- a.  $17 - 4 =$
- b.  $21 - 15 =$
- c.  $504 - 272 =$
- d.  $6973 - 3811 =$
- e.  $2786 - 490 =$

**4. MULTIPLICATION OF WHOLE NUMBERS**

- a.  $8 \times 2 =$
- b.  $93 \times 5 =$
- c.  $609 \times 78 =$

**5. DIVISION OF WHOLE NUMBERS**

- a.  $8 \div 8 =$
- b.  $242 \div 22 =$
- c.  $357 \div 21 =$
- d.  $1098 \div 61 =$

**6. CHANGING OF FRACTIONS**

- a. Change the fractions below to halves:

1a.  $\frac{2}{4} =$                       2a.  $\frac{4}{8} =$                       3a.  $\frac{16}{8} =$

- b. Change the fractions below to eighths:

1b.  $\frac{1}{2} =$                       2b.  $\frac{3}{4} =$                       3b.  $\frac{5}{2} =$

- c. Change the fractions below to sixty-fourths:

1c.  $\frac{3}{8} =$                       2c.  $\frac{7}{8} =$                       3c.  $\frac{12}{128} =$

- d. Reduce the fractions below to lowest terms:

1d.  $\frac{4}{8} =$                       2d.  $\frac{12}{32} =$                       3d.  $\frac{8}{64} =$

**7. ADDITION OF FRACTIONS**

a.  $3/4 + 5/16 =$

b.  $1/3 + 2/5 + 3/4 =$

c.  $1/2 + 3/16 + 3/4 =$

d.  $3 \frac{1}{8} + 5/16 + 2 \frac{5}{64} =$

**8. SUBTRACTION OF FRACTIONS**

a.  $3/4 - 5/16 =$

b.  $23/32 - 3/8 =$

c.  $6 \frac{3}{4} - 2 =$

d.  $5 \frac{3}{8} - 5/8 =$

**9. MULTIPLICATION OF FRACTIONS**

a.  $3/8 \times 8 =$

b.  $1/2 \times 1 =$

c.  $3 \frac{7}{8} \times 2 \frac{1}{2} =$

d.  $2 \frac{1}{8} \times 3 \frac{1}{4} =$

**10. DIVISION OF FRACTIONS**

a.  $1/2 \div 1/16 =$

b.  $3/4 \div 4 =$

c.  $4 \frac{1}{3} \div 3 =$

**11. ADDITION & SUBTRACTION OF DECIMALS**

a.  $1.738 + 0.0087 + 7.53 =$

b.  $0.067 + 35.716 + 762.35 + 6.8 =$

c.  $183 - 147.65 =$

d.  $1.895 - .081 =$

**12. MULTIPLICATION OF DECIMALS**

a.  $12.3 \times 7.1 =$

b.  $.2 \times .156 =$

c.  $144 \times .806 =$

**13. DIVISION OF DECIMALS Carry out to three decimal places where possible.**

a.  $39 \div .02 =$

b.  $24.501 \div 3.875 =$

c.  $.018 \div 3.185 =$

**14. PERCENTAGE, RATE, & BASE**

- a. 13% of 185 =
- b. 37.5% of 90 =
- c. What percent of 130 is 19.50 ?
- d. What percent of 780 is 195 ?

**15. SQUARE AND SQUARE ROOT**

- a.  $5^2 =$
- b.  $25^2 =$
- c.  $5 + 3^2 =$
- d.  $\sqrt{64} =$
- e.  $\sqrt{.25} =$

## ANSWER SHEET

### 1. APPLICATION OF LINEAR MEASUREMENT

A.  $\frac{1}{2}$ " B.  $1\frac{1}{4}$ " C.  $2\frac{3}{8}$ " D.  $2\frac{7}{8}$ " E.  $\frac{3}{8}$ " F.  $1\frac{1}{16}$ "

G.  $2\frac{9}{16}$ " H.  $3\frac{3}{16}$ " I.  $1\frac{1}{32}$ " J.  $1\frac{7}{8}$ " K.  $2\frac{13}{32}$ " L.  $2\frac{29}{32}$ "

### 2. ADDITION OF WHOLE NUMBERS

a. 15 b. 34 c. 11,653 d. 34 e. 3,776

### 3. SUBTRACTION OF WHOLE NUMBERS

a. 13 b. 6 c. 232 d. 3,162 e. 2,296

### 4. MULTIPLICATION OF WHOLE NUMBERS

a. 16 b. 465 c. 47,502

### 5. DIVISION OF WHOLE NUMBERS

a. 1 b. 11 c. 17 d. 18

### 6. CHANGING OF FRACTIONS

1a.  $\frac{1}{2}$  2a.  $\frac{1}{2}$  3a.  $\frac{4}{2}$

1b.  $\frac{4}{8}$  2b.  $\frac{6}{8}$  3b.  $\frac{20}{8}$

1c.  $\frac{24}{64}$  2c.  $\frac{56}{64}$  3c.  $\frac{6}{64}$

1d.  $\frac{1}{2}$  2d.  $\frac{3}{8}$  3d.  $\frac{1}{8}$

7. ADDITION OF FRACTIONS

a.  $1 \frac{1}{16}$     b.  $1 \frac{29}{60}$     c.  $1 \frac{7}{16}$     d.  $5 \frac{33}{64}$

8. SUBTRACTION OF FRACTIONS

a.  $\frac{7}{16}$     b.  $\frac{11}{32}$     c.  $4 \frac{3}{4}$     d.  $4 \frac{3}{4}$

9. MULTIPLICATION OF FRACTIONS

a.  $3$     b.  $\frac{1}{2}$     c.  $9 \frac{11}{16}$     d.  $6 \frac{15}{16}$

10. DIVISION OF FRACTIONS

a.  $8$     b.  $\frac{3}{16}$     c.  $2 \frac{3}{5}$

11. ADDITION & SUBTRACTION OF DECIMALS

a.  $9.2767$     b.  $804.933$     c.  $35.35$     d.  $1.814$

12. MULTIPLICATION OF DECIMALS

a.  $87.33$     b.  $.0312$     c.  $116.064$

13. DIVISION OF DECIMALS

a.  $1950$     b.  $6.323$     c.  $.006$

14. PERCENTAGE, RATE, & BASE

a.  $24.05$     b.  $33.75$     c.  $15\%$     d.  $25\%$

15. SQUARE AND SQUARE ROOT

a.  $25$     b.  $625$     c.  $14$     d.  $8$     e.  $.5$