

# INFORMAL MATH PROBES – GRADE 6

\_\_\_\_\_ can correctly

## NUMERATION:

- Recognize place value .0001 through billions in \_\_\_\_\_/5 attempts.
- Round numbers in \_\_\_\_\_/5 attempts.

## WHOLE NUMBERS:

- Add two 3-digit numbers with regrouping in \_\_\_\_\_/5 attempts
- Subtract 3-digit numbers with zeros and regrouping in \_\_\_\_\_/5 attempts.
- Multiply a 3-digit number by a 3-digit number in \_\_\_\_\_/5 attempts.
- Divide any whole number by a 2-digit divisor in \_\_\_\_\_/5 attempts.
- Solve an equation with one variable.

## DECIMALS:

- Read decimals to tens, hundreds, thousands in \_\_\_\_\_/5 attempts.
- Change decimals to fractions in \_\_\_\_\_/5 attempts.
- Add two decimals in \_\_\_\_\_/5 attempts.
- Subtract two decimals in \_\_\_\_\_/5 attempts.
- Multiply two decimals in \_\_\_\_\_/5 attempts.
- Divide a decimal by a decimal in \_\_\_\_\_/5 attempts

## FRACTIONS:

- Add mixed numbers in \_\_\_\_\_/5 attempts.
- Subtract mixed numbers in \_\_\_\_\_/5 attempts.
- Dividing two fractions in \_\_\_\_\_/5 attempts.
- Simplify fractions in \_\_\_\_\_/5 attempts.

## PROBLEM SOLVING:

- Solve \_\_\_\_\_/5 multi-step problems.

## CLASSROOM WORK:

- Completes assignments with \_\_\_\_\_% to \_\_\_\_\_% accuracy with \_\_\_\_\_% average.
- Completes chapter tests with \_\_\_\_\_% to \_\_\_\_\_% accuracy with \_\_\_\_\_% average.

NAME: \_\_\_\_\_ DATE: \_\_\_\_\_

**WHOLE NUMBERS:**

3,765,201,489    .0253    5,439,782,016    1,234,567,890    55.6532

Round numbers to:

	Tens	Hundreds	Thousands
3,678	<u>3,680</u>	<u>3,700</u>	<u>4,000</u>
10,599	<u>10,600</u>	<u>10,600</u>	<u>11,000</u>
41,304	<u>41,300</u>	<u>41,300</u>	<u>41,000</u>
155,042	<u>155,040</u>	<u>155,000</u>	<u>155,000</u>
1,255,824	<u>1,255,820</u>	<u>1,255,800</u>	<u>1,256,000</u>

(Go to Grade 5 Probes if student is not successful)

Add two 3-digit numbers with regrouping:

399	478	523	822	622
<u>+ 473</u>	<u>+265</u>	<u>+ 757</u>	<u>+ 369</u>	<u>+578</u>
872	743	1,280	1,191	1,200

Subtract 3-digit numbers with zeros and regrouping:

472	206	682	720	803
<u>- 394</u>	<u>-137</u>	<u>- 395</u>	<u>- 476</u>	<u>- 289</u>
78	69	287	244	514

Multiply a 3-digit number by a 3-digit number:

366	725	635	472	136
<u>x 130</u>	<u>x 407</u>	<u>x 322</u>	<u>x 212</u>	<u>x 523</u>
47,580	295,075	204,470	100,064	71,128

Divide a whole number by a 2-digit divisor:

$7,390 \div 32 = 230.9$      $542 \div 12 = 45.1$      $1,576 \div 34 = 46.3$   
 $5,064 \div 22 = 230.1$      $786 \div 50 = 15.7$

Solve an equation with one variable:

$x + 3 = 7 - 3 \quad x = \underline{1}$

$5 + 7 = x + 2 \quad x = \underline{10}$

$4 \times a = 40 \div 2 \quad a = \underline{5}$

$12 \div b = 5 - 2 \quad b = \underline{4}$

$d - 10 = 4 \times 7 \quad d = \underline{38}$

### DECIMALS:

Read decimals:

.5

.50

.500

3.75

47.373

Change decimals to fractions:

$.5 = \underline{1/2}$

$.20 = \underline{1/5}$

$.33 = \underline{33/100}$

$.75 = \underline{3/4}$

$.9 = \underline{9/10}$

Add two decimals:

$.472 + .5 = \underline{.972} \quad .75 + .3 = \underline{1.05} \quad .576 + .3 = \underline{.876} \quad .9 + .25 = \underline{1.15} \quad .25 + .25 = \underline{.5}$

Subtract two decimals:

$.57 - .25 = \underline{.32} \quad .862 - .322 = \underline{.54} \quad .96 - .53 = \underline{.43} \quad .782 - .351 = \underline{.431} \quad .75 - .25 = \underline{.5}$

Multiply two decimals:

$$\begin{array}{r} 5.63 \\ \times .4 \\ \hline 2.252 \end{array}$$

$$\begin{array}{r} 2.75 \\ \times .6 \\ \hline 1.65 \end{array}$$

$$\begin{array}{r} 6.98 \\ \times .2 \\ \hline 1.396 \end{array}$$

$$\begin{array}{r} 1.87 \\ \times .5 \\ \hline .935 \end{array}$$

$$\begin{array}{r} 4.56 \\ \times .3 \\ \hline 1.368 \end{array}$$

Divide a decimal by a decimal:

$$\begin{array}{r} \underline{37.7} \\ .2) 7.54 \end{array}$$

$$\begin{array}{r} \underline{18.3} \\ .5) 9.15 \end{array}$$

$$\begin{array}{r} \underline{7.6} \\ .8) 6.08 \end{array}$$

$$\begin{array}{r} \underline{12.3} \\ .7) 8.61 \end{array}$$

$$\begin{array}{r} \underline{12.5} \\ .3) 3.75 \end{array}$$

### FRACTIONS:

Add mixed numbers:

$1\frac{1}{4} + 2\frac{5}{8} = \underline{3\frac{7}{8}}$

$6\frac{2}{3} + 5\frac{1}{8} = \underline{11\frac{19}{24}}$

$12\frac{7}{8} + 1\frac{1}{3} = \underline{14\frac{5}{24}}$

$4\frac{2}{3} + 7\frac{1}{2} = \underline{12\frac{1}{6}}$

$3\frac{1}{8} + 8\frac{2}{3} = \underline{11\frac{19}{24}}$

Subtract mixed numbers:

$$5\frac{1}{2} - 4\frac{1}{8} = 1\frac{3}{8} \quad 10\frac{1}{3} - 5\frac{2}{3} = 4\frac{2}{3} \quad 7\frac{1}{4} - 2\frac{5}{8} = 4\frac{3}{8}$$

$$3\frac{7}{8} - 1\frac{1}{8} = 2\frac{3}{4} \quad 16\frac{5}{8} - 6\frac{1}{3} = 10\frac{7}{24}$$

Divide two fractions:

$$1/3 \div 1/2 = 2/3 \quad 3/8 \div 7/10 = 15/28 \quad 5/7 \div 5/6 = 6/7$$

$$1/4 \div 5/10 = 1/2 \quad 2/3 \div 3/4 = 8/9$$

Simplify Fractions:

$$\frac{5}{10} = \frac{1}{2} \quad \frac{6}{8} = \frac{3}{4} \quad \frac{4}{16} = \frac{1}{4} \quad \frac{3}{18} = \frac{1}{6} \quad \frac{2}{12} = \frac{1}{6}$$

## Story Problems – Grade 6

1. Sue's family drive to Colorado. The first day they drive 500 miles. The second day, they drove 900 miles, and the last day only 100 miles. What was the average number of miles they drove each day?  
500 miles drove each day
2. They stayed at motels two nights. The motels cost \$50 each night. They spent \$97 for food. How much did they spend for motel rooms and food on the way to Colorado? They spent \$197.00 on the way to Colorado.
3. Gas costs \$1.00 per gallon. They drove 1500 miles. Their car gets 20 miles to a gallon of gas. What did gas cost for the trip to Colorado?  
It cost \$75.00 for gas for the trip to Colorado.
4. Sue's dad made a 12-minute telephone call. The first minute cost \$1.00. Each additional minute cost \$ .50. What was the total cost of the call home? The call home cost \$6.50
5. Sue's family took \$1,000 with them to spend on their vacation. They spent \$250 on the trip to Colorado and \$575 while in Colorado. How much money do they have left to spend on the way home? They have \$175.00 left to spend on the way home.