

Study Guide: Multi-Digit Division, Multi-Step

Expressions, and Measurement Conversion

Module 2: End of Module Assessment Study Guide

Name: _____ # _____

Date: _____

- 5.OA.1:** Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.
- 5.OA.2:** Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them.
- 5.NBT.2:** Explain patterns in zeros and decimal placement of the product when \times or \div a number by powers of 10. Use whole-number exponents to denote powers of 10.
- 5.NBT.5:** Fluently multiply multi-digit whole numbers (up to three-digit by four-digit factors) using appropriate strategies and algorithms.
- 5.NBT.6:** Use equations, rectangular arrays, and/or area models to divide 4-digit dividends by 2 digit divisors with partial quotients/remainders and recognize the connection to multiplication.
- 5.NBT.7:** $+$, \times \div decimals to hundredths, using concrete models/drawings/strategies using place value and operation understanding; check reasonableness using estimation strategies.
- 5.MD.1:** Convert larger measurement units to a smaller measurement unit & use to solve multi-step real world problems involving distances, intervals of time, liquid volumes, masses of objects, and money.

1. Complete the chart.

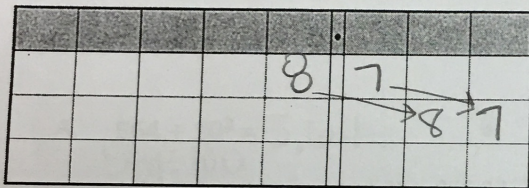
5.OA.1 & 5.OA.2

40 times the sum of 17 and 23	a. $40 \times (17 + 23)$	b. 40×40 1600
c. The difference between 1,000 and 750 divided by 25	$(1,000 - 750) \div 25$	d. $250 \div 25$ 10
the sum of 3 elevens and 17 elevens	e. $(3 \times 11) + (17 \times 11)$	f. $33 + 187$ 220

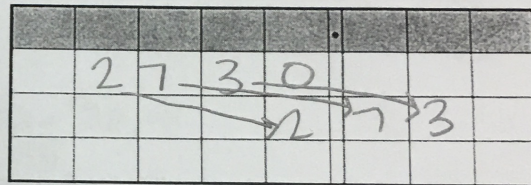
2. Express the missing divisors using a power of 10. Explain using a place value chart.

5.NBT.2

a. $8.7 \div \underline{100} = 0.087$



b. $2,730 \div \underline{1000} = 2.73$



3. Use mental math to estimate the quotients. You must include the estimated dividend, divisor, and quotient for each.

5.NBT.7

a. $543 \div 65$

$\underline{500} \div \underline{70} = \underline{8}$

b. $1,975 \div 62$

$\underline{1800} \div \underline{60} = \underline{30}$

c. $17.11 \div 18$

$\underline{20} \div \underline{20} = \underline{1}$

d. $24.65 \div 57$

$\underline{24} \div \underline{60} = \underline{0.4}$

4. A rectangular yard has an area of 2,262 square meters and a width of 29 meters. What is the length?

5.NBT.6

TS: The length of the rectangular yard is 78 m.

$2,262 \text{ m}^2 \div 29 \text{ m}$

$\checkmark 2400 \text{ m}^2 \div 30 \text{ m} = 80 \text{ m}$

$$\begin{array}{r} 7 \\ 29 \\ \times 8 \\ \hline 232 \end{array}$$

$$\begin{array}{r} 78 \\ 29 \overline{) 2262} \\ \underline{- 203} \\ 232 \\ \underline{- 232} \\ 0 \end{array}$$

$$\begin{array}{r} 78 \\ \times 29 \\ \hline 702 \\ + 1560 \\ \hline 2262 \end{array}$$

5. Write an expression that matches $8 + 15 \times (14 - 8)$?
5.OA.2

The difference of 14 and 8 is multiplied by 15, then added to 8.

6. What division problem does the following area model represent?
5.NBT.6

	17
100	1,700
50	850
20	340

$$\begin{array}{r} 1700 \\ 850 \\ + 340 \\ \hline 2890 \end{array} \div 17 = 170$$

7. Describe what an accurate array model that represents the division problem $171 \div 19$ would look like.
5.NBT.6

The array should have 171 objects arranged into 19 rows.

8. Which expression can be simplified to find the quotient of $5,375 \div 15$?
5.NBT.6

- A. $(5,000 \div 15) + (70 \div 15) + (5 \div 15)$
- B. $(5,000 \div 15) + (300 \div 15) + (75 \div 15)$
- C. $(500 \div 15) + (30 \div 10) + (75 \div 5)$
- D. $(500 \div 15) + (30 \div 15) + (75 \div 15)$

9. What is the dividend represented by the area model below?
5.NBT.6

	15
200	3000
40	600
5	75

$$\begin{array}{r} 3000 \\ 600 \\ 75 \\ \hline 3675 \end{array}$$

10. What is the missing value in the area model below? What dividend is represented?
5.NBT.6

	21
200	4,200
?	1,680
3	63

$$1680 \div 21$$

$$\begin{array}{r} 80 \\ 21 \overline{) 1680} \\ \underline{- 160} \\ 80 \\ \underline{- 80} \\ 0 \end{array}$$