1.4 Subtracting Whole Numbers
1.4 Exercise Set, page 34: 3, 15, 45, 54

1.5 Rounding and Estimating
1.5 Exercise Set, page 44: 1, 11, 30, 37, 43, 47, 50, 54

1.6 Multiplying Whole Numbers and Area
1.6 Exercise Set, page 56: 1, 3, 9, 13, 39, 57, 77

1.7 Dividing Whole Numbers
1.7 Exercise Set, page 71: 1, 7, 13, 21, 24, 25,43, 75

Your Name MDE 10 quiz 1 write each problem
Open Homework Notebook, closed everything else,
no calculator

1.4: 3

Objective A *Subtract. Check by adding. See Examples 1 and 2.*

3. $\begin{array}{r} 389 \\ -124 \\ \hline 265 \end{array}$

check
265
+124
389 ✓

1.5: 1

Objective A *Round each whole number to the given place. See Examples 1 through 3.*

1. 423 to the nearest ten

$423 \approx 420$

Multiplication Shown as Repeated Addition Suppose that we wish to count the number of laptops provided in a computer class. The laptops are arranged in 5 rows, and each row has 6 laptops.

number of laptops provided in a computer class. The laptops are arranged in 5 rows, and each row has 6 laptops.

$$\#\text{laptops} = \left(\frac{\#\text{laptops}}{\text{row}}\right)\left(\frac{\#\text{rows}}{\text{class}}\right)$$
$$= \left(\frac{6 \text{ laptops}}{\text{row}}\right)\left(\frac{5 \text{ rows}}{\text{class}}\right)$$
$$= \boxed{30 \frac{\text{laptops}}{\text{class}}}$$

There are 30 laptops in the class.

Memorize

Multiplication Property of 0

The product of 0 and any number is 0. For example,

$5 \cdot 0 = 0$ and $0 \cdot 8 = 0$

Trick question

without calculator evaluate $\left(\frac{3+1-4+100}{2+8^2-100}\right)(0)\left(\frac{100^2-50}{30+1}\right)$

$= 0$

memorize

Multiplication Property of 1

The product of 1 and any number is that same number. For example,

$1 \cdot 9 = 9$ and $6 \cdot 1 = 6$

Memorize

Commutative Property of Multiplication

Changing the **order** of two factors does not change their product. For example,

$9 \cdot 2 = 18$ and $2 \cdot 9 = 18$

Memorize

Associative Property of Multiplication

Changing the **grouping** of factors does not change their product. From the previous page, we know that for example,

$(2 \cdot 3) \cdot 4 = 2 \cdot (3 \cdot 4)$

$6 \cdot 4 \mid 2(12)$

$24 = 24$

Memorize

Distributive Property

Multiplication distributes over addition. For example,

$2(3 + 4) = 2 \cdot 3 + 2 \cdot 4$

$(2)(7) \mid 6 + 8$

$14 = 14$

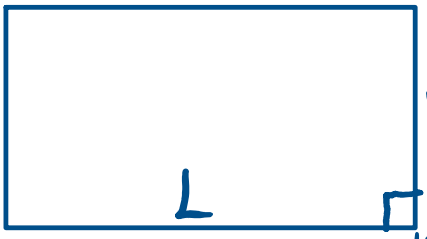
$2(3 - 3) = (2)(3) + (2)(-3)$

$2(0) \mid 6 - 6$

$0 \quad 0$

Memorize

Area of a rectangle = length · width

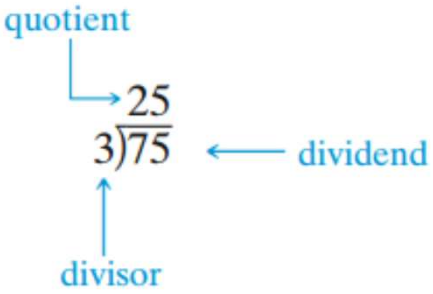


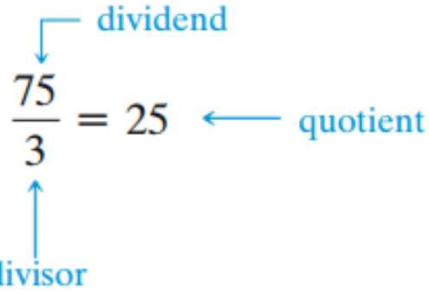
right angle
90°

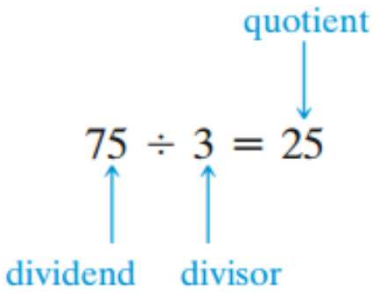
Let A = area of rectangle
L = length " "
w = width " "

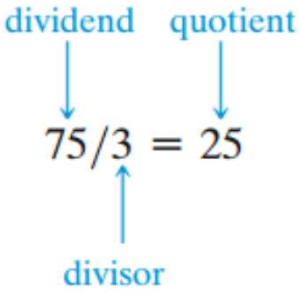
$$A = LW$$

1.6









Memorize

Division Properties of 1

The quotient of any number (except 0) and that same number is 1. For example,

$8 \div 8 = 1 \qquad \frac{5}{5} = 1 \qquad 4\overline{)4}^{\,1}$

The quotient of any number and 1 is that same number. For example,

$9 \div 1 = 9 \qquad \frac{6}{1} = 6 \qquad 1\overline{)3}^{\,3} \qquad \frac{0}{1} = 0$

Memorize

Division Properties of 0

The quotient of 0 and any number (except 0) is 0. For example,

$0 \div 9 = 0 \quad \frac{0}{5} = 0 \quad 14\overline{)0}^{\,0}$

The quotient of any number and 0 is not a number. We say that

$\frac{3}{0}$, $0\overline{)3}$, and $3 \div 0$

are **undefined.**

Why can't we divide by zero?

Assume that we can divide by 0.

$\frac{1}{0} = x$ for some number x

$\Leftrightarrow \quad 1 = 0 \cdot x$

$\Leftrightarrow$

equivalent $\quad 1 = 0$

$\Rightarrow 1+1 = 0+1$

$2 = 1$

$3 = 2$

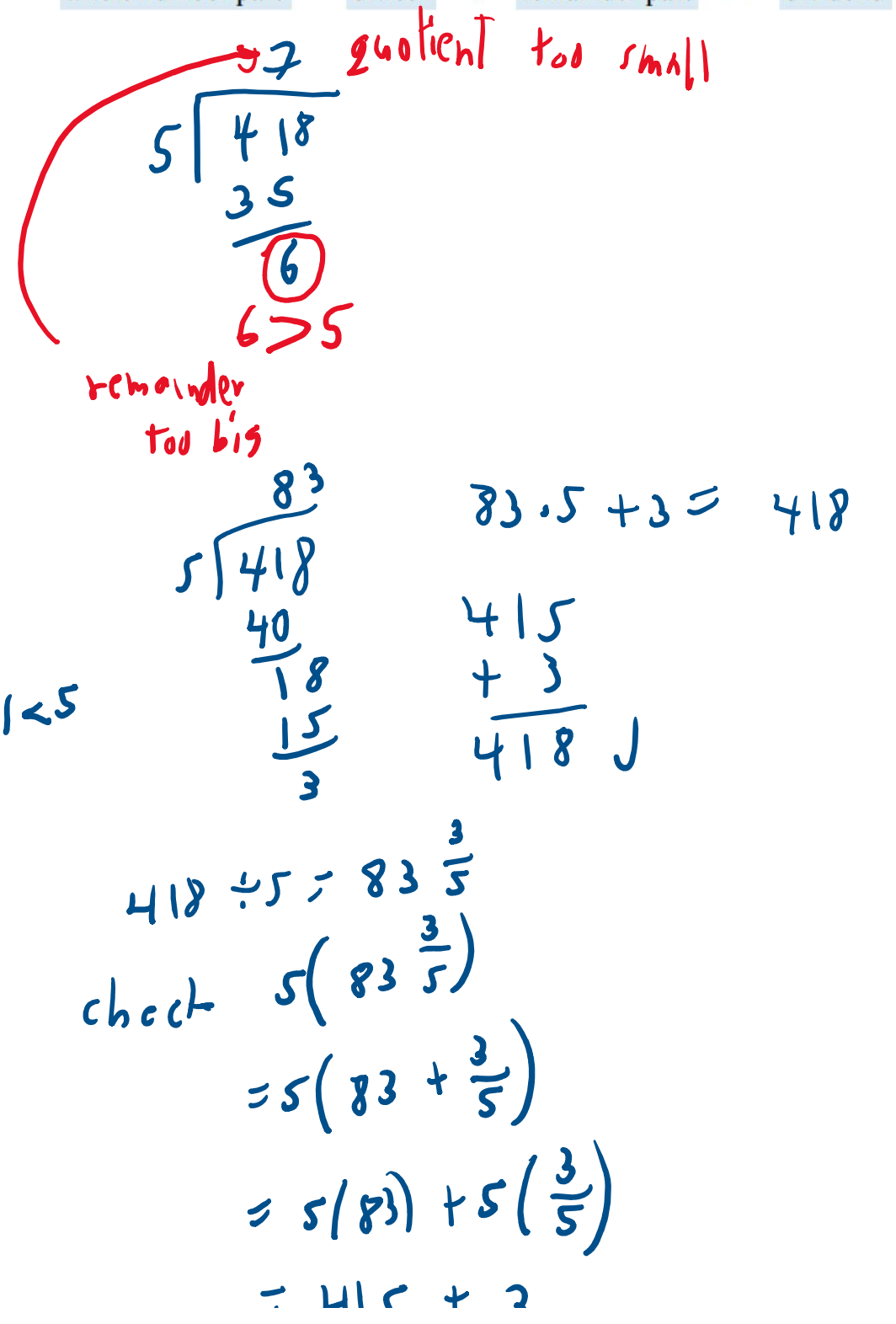
$4 = 3$

$\vdots$

4 - 3
⋮
1,000,000 ⇒ 0

Memorize

whole number part	·	divisor	+	remainder part	=	dividend



$= 415 + 3$

$= 418$ J

Memorize

$$\text{average} = \frac{\text{sum of numbers}}{\textit{number} \text{ of numbers}}$$

Arithmetic mean

Find average of 1, 2, 3, 6

$$\frac{1+2+3+6}{4}$$

$$= \frac{12}{4} = 3$$