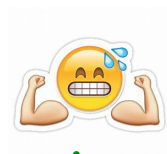




Warm up Grade 6

Date: Nov .22



1) use the numbers 7, ~~0~~, 6, ~~0~~, 8, 1, ~~0~~

a) Write 4 numbers less than one thousandths

0.001

0.001
 0.0007
 0.0006
 0.0008
 0.0001

b) Record your numbers in part 'a' from least to greatest

0.0001
 0.0006
 0.0007
 0.0008

2) Give a number between 3.456 and 3.457

3.4560

3.4570

3.4561
 3.4562
 3.4563
 .
 .

Worksheet 2 digit or more multiplication

Homework Solutions

Show work with long multiplication

$$\begin{array}{r} 1) \ 67 \\ \times 24 \\ \hline 268 \\ + 1340 \\ \hline 1608 \end{array}$$

$$\begin{array}{r} 2) \ 29 \\ \times 31 \\ \hline 29 \\ + 870 \\ \hline 899 \end{array}$$

$$\begin{array}{r} 3) \ 78 \\ \times 42 \\ \hline 156 \\ + 3120 \\ \hline 3276 \end{array}$$

$$\begin{array}{r} 4) \ 85 \\ \times 75 \\ \hline 425 \\ + 5950 \\ \hline 6375 \end{array}$$

$$\begin{array}{r} 5) \ 23 \\ \times 18 \\ \hline 184 \\ + 230 \\ \hline 414 \end{array}$$

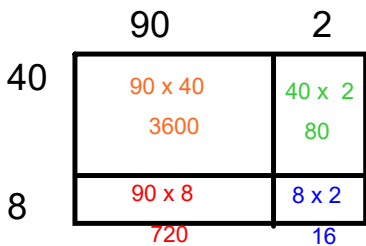
$$\begin{array}{r} 6) \ 12 \\ \times 56 \\ \hline 72 \\ + 600 \\ \hline 672 \end{array}$$

$$\begin{array}{r} 7) \ 285 \\ \times 18 \\ \hline 2280 \\ + 2850 \\ \hline 5130 \end{array}$$

$$\begin{array}{r} 8) \ 129 \\ \times 64 \\ \hline 516 \\ + 7740 \\ \hline 8256 \end{array}$$

Calculate product with area model (area model)

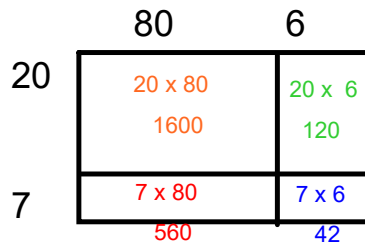
9) 92×48



$$\begin{array}{r} 3600 \\ 720 \\ 80 \\ + 16 \\ \hline 4416 \end{array}$$

$92 \times 48 = 4416$

10) 27×86



$$\begin{array}{r} 1600 \\ 560 \\ 120 \\ + 42 \\ \hline 2322 \end{array}$$

$86 \times 82 = 2322$

11) 345×62



$$\begin{array}{r} 18000 \\ 2100 \\ 300 \\ 600 \\ 80 \\ + 10 \\ \hline 21390 \end{array}$$

$62 \times 345 = 21390$

Worksheet 2 Continues Quotient

Homework Solutions

Show work with long division (Show any remainders)

1) $458 \div 7$

$$\begin{array}{r} 65 \\ 7 \overline{) 458} \\ \underline{-42} \\ 38 \\ \underline{-35} \\ 3 \text{ R} \end{array}$$

2) $240 \div 9$

$$\begin{array}{r} 26 \\ 9 \overline{) 240} \\ \underline{-18} \\ 60 \\ \underline{-54} \\ 6 \text{ R} \end{array}$$

3) $187 \div 2$

$$\begin{array}{r} 93 \\ 2 \overline{) 187} \\ \underline{-18} \\ 07 \\ \underline{-6} \\ 1 \text{ R} \end{array}$$

4) $936 \div 5$

$$\begin{array}{r} 187 \\ 5 \overline{) 936} \\ \underline{-5} \\ 43 \\ \underline{-40} \\ 36 \\ \underline{-35} \\ 1 \text{ R} \end{array}$$

5) $3904 \div 4$

$$\begin{array}{r} 976 \\ 4 \overline{) 3904} \\ \underline{-36} \\ 30 \\ \underline{-28} \\ 24 \\ \underline{-24} \\ 0 \end{array}$$

Practice

1. Use a place-value chart to show each number.

- a) 2.3425 b) 0.14286 c) 0.0007 d) 0.000298

Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones	Tenths	Hundredths	Thousandths	Ten Thousandths	Hundred Thousandths	Millionths
						2	3	4	2	5		
						0	1	4	2	8	6	
						0	0	0	0	2	9	8

2. Use the numbers in the table.

Write the number that has a 5 in:

- a) 2.184 592 a) the ten-thousandths position
 b) 1. 003 825 b) the millionths position
 c) 0.635 734 c) the thousandths position
 d) 3.702 456 d) the hundred-thousandths position
 e) 0.506 312 e) the tenths position

0.635 734
0.506 312
1.003 825
3.702 456
2.184 592

3. Describe the meaning of each digit in 4.524 371.

The 4 to the left of the decimal point represents 4 ones, the 5 represents 5 tenths, the 2 represents 2 hundredths, the 4 to the right of the decimal point represents 4 thousandths, the 3 represents 3 ten-thousandths, the 7 represents 7 hundred-thousandths, and the 1 represents 1 millionth.

4. Write each number in standard form.

- a) 8 and 26 ten-thousandths b) 24 millionths
 c) 3 hundred-thousandths d) 4 and 374 millionths

a) 8. 0 0 2 6

b) 0. 0 0 0 0 2 4

c) 0. 0 0 0 0 3

d) 4. 0 0 0 3 7 4



5. Write each number in expanded form.

- a) 0.0056 b) 0.00049 c) 3.000023 d) 0.348619

a) $0.0056 = 0.005 + 0.0006$

B) $0.00049 = 0.0004 + 0.00009$

c) $3.000023 = 3 + 0.00002 + 0.000003$

d) $0.348619 = 0.3 + 0.04 + 0.008 + 0.0006 + 0.00001 + 0.000009$

6. Write a decimal that is between:

a) 2.153 and 2.154

b) 0.6534 and 0.6535

2.1530

2.1540

0.65340

0.65350

2.1537

0.65347



7. Find two examples of very small numbers in the media.

Write each number in a place-value chart. Explain how you use the patterns in the chart to read these numbers.

8. How are the values of the red digits in each number related?

- a) 5,000 05 b) 2.1433 c) 0.677 56 d) 4.234 654

8a) 5 ones are 100 000 times as great as 5 hundred-thousandths

b) 3 thousandths are 10 times as great as 3 ten-thousandths

c) 6 tenths are 10 000 times as great as 6 hundred-thousandths

d) 4 Thousandths are 1000 times as great as 4 millionths

9. Write the number in each fact in as many different forms as you can.

- a) A strand of silk in the web of a garden spider has a diameter of about 0.000 003 m.
 b) The diameter of one red blood cell is about 0.000 762 cm.
 c) The mass of a grain of rice is about 0.000 02 kg.



a) 3 millionths, or three millionths;

b) 7 ten-thousandths + 6 hundred-thousandths + 2 millionths

or

$0.0007 + 0.00006 + 0.000002$

c) 0.00002 or 2 hundred-thousandths

or

two hundred-thousandths

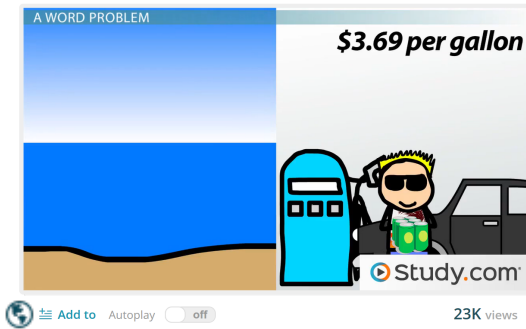
10. Use any or all of these digits: 1, 0, 2, 0, 4, 0, 5, 0

- a) Write 5 numbers less than one thousandth.
 b) Which of your numbers is the least? How do you know?
 c) Which of your numbers is the greatest? How do you know?

a) 0.00012, 0.00002, 0.000042, 0.000005, 0.0000245

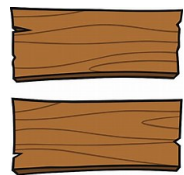
b) 0.00012 it has the least amount of ten-thousandths
 0 ones, 0 tenths, 0 hundredths, 0 thousandths,

d) 0.0005 all numbers have 0 ones, 0 tenths, 0 hundredths, and 0 thousandths but 0.0005 has the greatest ten-thousandths



You try

A board measures 7.78 m. Estimate the mass of 6 boards.



Two strategies

a) Front end estimation of decimals

-Front end we only use the leftmost place or the very last number on the left.

7.78m becomes 7
 Estimation : 7 m x 6 boards
 = 42 m

This is an underestimation
 since 7 is smaller than 7.78

b) Bench marks

- rounding to the nearest whole number or largest place value using

4 or smaller stays the same

5 or greater round up,

This is an over-estimation
 since 8 is larger than 7.78

7.78m becomes 8m
 Estimation : 8m x 6 boards = 48m
greater than 5 so round up ones place

Calculator Answer: 7.78m x 6 boards
 = 46.68 m

So our estimations are close to the actual

division

3 bags of flour have a total of 628.25 g. Estimate the mass of 1 bag of flour. (Is your estimation and under or over estimation?)

Two strategies

a) Front end estimation of decimals

628.25 g becomes 600 (*smaller than actual*)

Estimation : $600 \text{ g} \div 3$

$= 200 \text{ g}$

Underestimation

The mass of 1 bag of flour is about 200g

b) Bench marks

628.25 g becomes 630 (*Bigger than actual*)

Estimation : $630 \text{ g} \div 3$

$= 210 \text{ g}$

over estimation

The mass of 1 bag of flour is about 210g

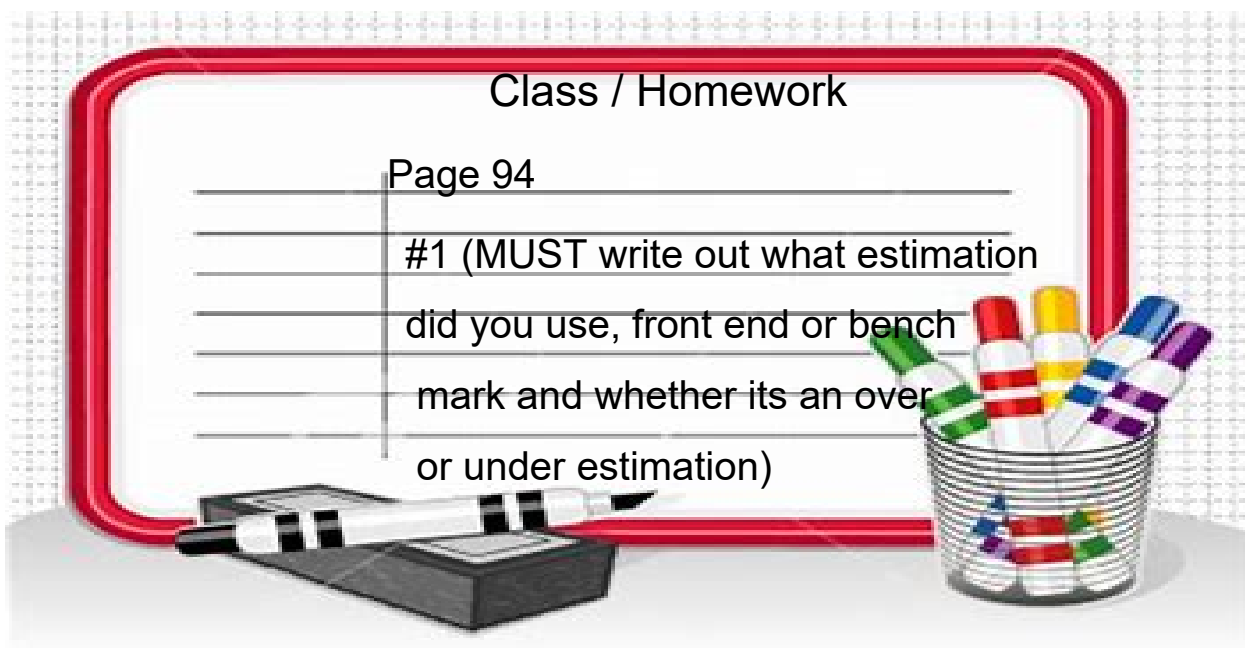
Actual $628.25 \div 3$

$= 209.41\bar{6}$

Class / Homework

Page 94

#1 (MUST write out what estimation
did you use, front end or bench
mark and whether its an over
or under estimation)



$$2.4 \times 7 \\ \approx 14$$

Estimate
Front End

$$2 \times 7 = 14$$

Bench Mark

2.4

↑
less than 5 so stay
the same

$$2 \times 7 = 14$$

Practice

1. Estimate each product or quotient. Which strategies did you use?

Tell if your estimate is an overestimate or an underestimate.

- a) 7.01×9 b) 3.8×7 c) 11.85×5 d) 19.925×4
e) $9.8 \div 5$ f) $12.31 \div 2$ g) $56.093 \div 7$ h) $225.3 \div 5$
-

2. Waldo paid \$29.85 for 3 admission tickets to the Calgary Tower.

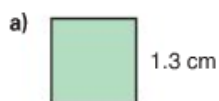
Estimate the cost of one admission ticket.

3. A pair of ice cleats for ice fishing costs \$14.89.
About how much will 6 pairs of ice cleats cost?
How did you find out?

4. Estimate the perimeter of each square.

Tell if your estimate is an overestimate or an underestimate.

How do you know?



5. Estimate the side length of a square with perimeter:

- a) 24.2 cm b) 29.8 cm c) 35.6 cm

6. a) Is 9.47×5 greater than, or less than, 45?

How can you estimate to find out?

b) Is $23.86 \div 4$ greater than, or less than, 6?

How can you estimate to find out?

Show your work.

7. Copy and complete. Write $>$, $<$, or $=$.

How did you decide which symbol to use?

- a) 5.6×2 \square 1.4×4 b) $4.8 \div 2$ \square $15.5 \div 5$