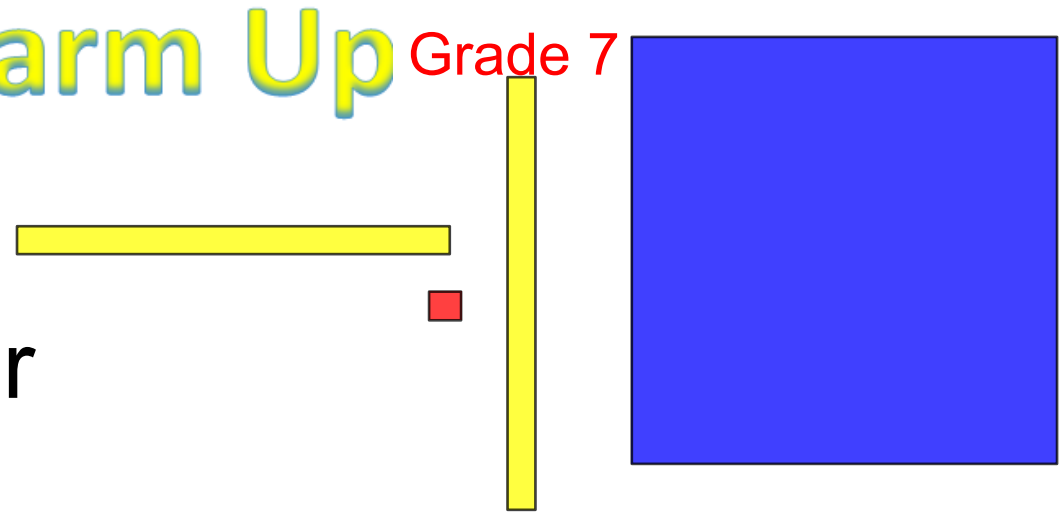
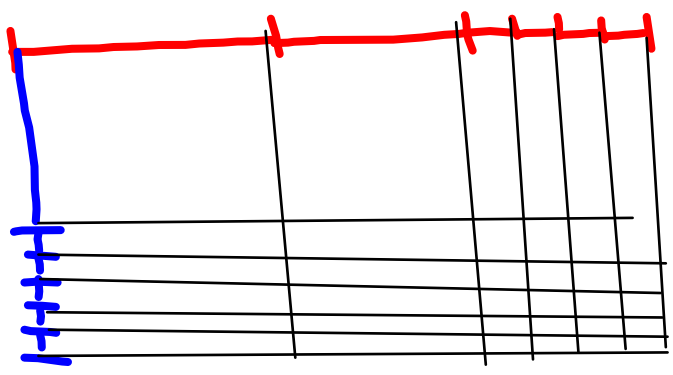
Warm Up Grade 7



Model and answer

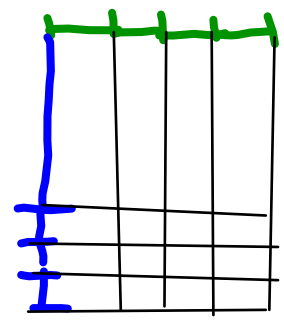
a) 2.4 x 1.5



2 ones
14 tenths
20 hundredths

2.00
1.40
+ 0.20
3.60

b) 0.4x 1.3



0 ones
4 tenths
12 hundredths

0.00
0.40
+ 0.12
0.52

Quiz tomorrow

Examples

(line up •)

adding decimals a) 12.36 + 0.258

multiplying decimals a) 15.7 x 0.6

Rounding a decimal to the tenths place a) 127.62 b) 0.975

127.6 1.0

model multiplication of decimals with area model a) 1.3 x 2.5

a) 12.36 0
+ 0.25 8
12.618

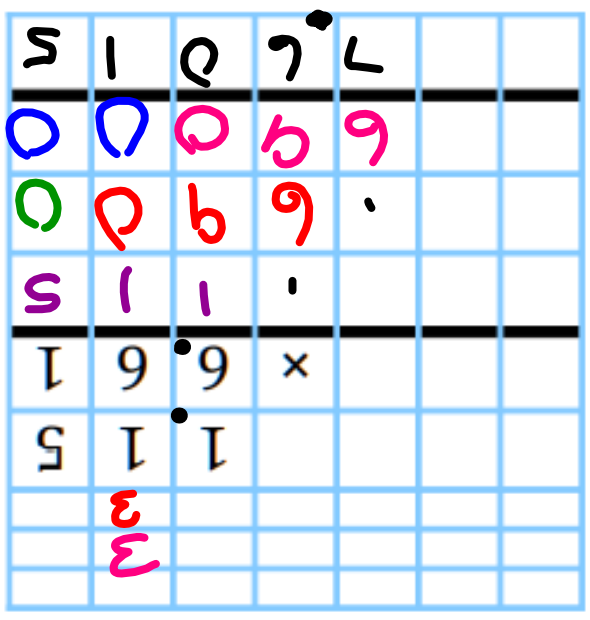
16 pts total

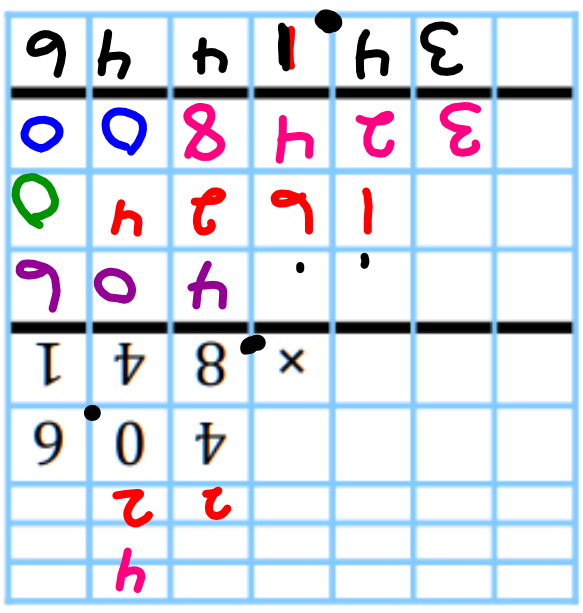
b) 15.7
x .6
9.42

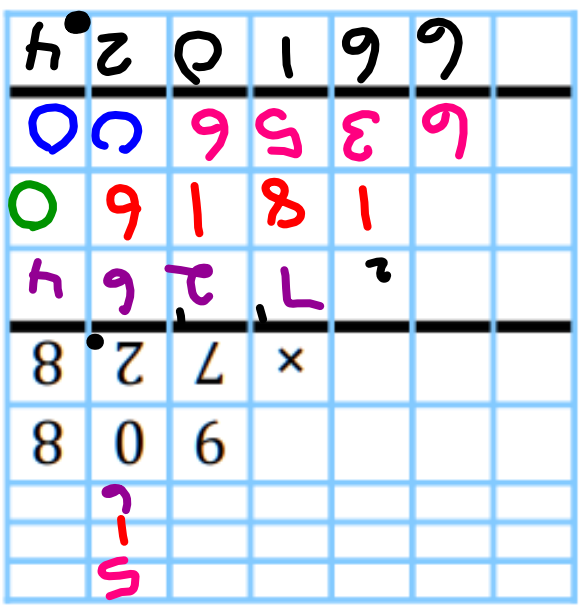
(Decimal doesn't have to line up)

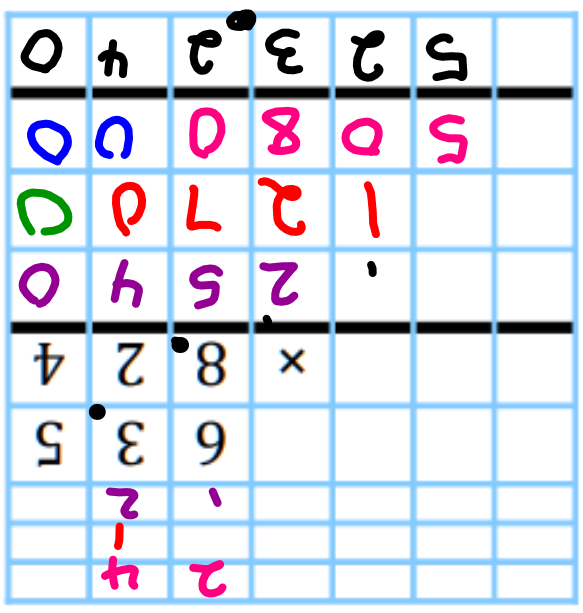
157 x 6 Think

157 x 0.6 = ·









4. Multiply. Use a rectangle model.

a) 4.2×3.7 b) 8.9×0.3 c) 0.6×0.9

$\approx 4 \times 4$
16

$\approx 9 \times \frac{1}{3}$
3

< 1

$$\begin{array}{r} 4.2 \\ \times 3.7 \\ \hline 294 \\ 1260 \\ \hline 15.54 \end{array}$$

$$\begin{array}{r} 8.9 \\ \times 0.3 \\ \hline 2.67 \end{array}$$

$$\begin{array}{r} 0.6 \\ \times 0.9 \\ \hline 0.54 \end{array}$$

5. A rectangular plot of land measures 30.5 m by 5.3 m.

What is the area of the plot?

Estimate to check your answer is reasonable.

$A = l \times w$

30.5×5.3

$\approx 30 \times 5$

150

$$\begin{array}{r} 30.5 \\ \times 5.3 \\ \hline 915 \\ 15250 \\ \hline 161.65 \text{ m}^2 \end{array}$$

5. A rectangular plot of land measures 30.5 m by 5.3 m.

What is the area of the plot?

Estimate to check your answer is reasonable.

$A = l \times w$

30.5×5.3

$\approx 30 \times 5$

150

$\overset{\times 2}{30.5}$

5.3

915

15250

$161.65\ m^2$

6) Multiply. Describe the pattern

a) $8.36 \times 10 = 83.6$

$8.36 \times 100 = 836$

$8.36 \times 1000 = 8360$

$8.36 \times 10\,000 = 83\,600$

When you multiply by multiples of 10 (10,100, 1000..), the digit in the product moves one place to the left each time. (Or, the decimal point moves one place to the right each time.)

a) $8.36 \times 0.1 = 0.836$

$8.36 \times 0.01 = 0.0836$

$8.36 \times 0.001 = 0.00836$

$8.36 \times 0.0001 = 0.000836$

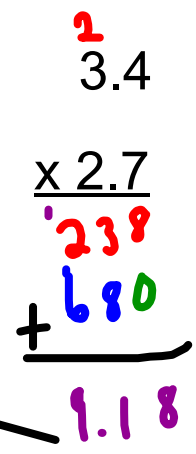
When you multiply by multiples of 0.1 (0.1,0.01, 0.001..), the digit in the product moves one place to the right each time. (Or, the decimal point moves one place to the left each time.)

Homework Solutions

7) Area = length x width

= 3.4m x 2.7m

= 9.18 m^2



8) a) 2.7 x 4.786 = 12.9222

b) 12.52 x 13.923 = 174.31596

c) 0.986 x 1.352 = 1.333072

9. The fuel consumption estimates of Josie's car are:

City: 21.2 km/L Highway: 23.3 km/L

The car's gas tank holds 40.2 L of fuel.

a) How far could Josie drive on a full tank of gas on the highway before she runs out of fuel?

b) How far could she drive on a full tank of gas in the city?

What assumptions did you make?

a)
$$\begin{array}{r} {\scriptstyle 1\ 1} \\ 23.3 \\ \times\ 40.2 \\ \hline 466 \\ 93200 \\ \hline 936.66 \end{array}$$

she can drive 936.66 km on a full tank.

b)
$$\begin{array}{r} 21.2 \\ \times\ 40.2 \\ \hline 424 \\ 8480 \\ \hline 852.24 \end{array}$$

In the city she can drive 852.24km

10. Find the cost of each item at the Farmers' Market.

Which strategy will you use? Justify your choice.

a) 2.56 kg of apples at $0.95/kg

b) 10.5 kg of potatoes at $1.19/kg

c) 0.25 kg of herbs at $2.48/kg

a)
$$\begin{array}{r} {\scriptstyle 1\ 5\ \ 3\ 5} \\ 2.56 \\ \times\ 0.95 \\ \hline 1280 \\ 23040 \\ \hline 2.4320 \end{array}$$

$\approx \$2.50$

Apples $2.43

b)
$$\begin{array}{r} 10.5 \\ \times\ 1.19 \\ \hline 945 \\ 1050 \\ 10500 \\ \hline 12.495 \end{array}$$

$10 \times 1.19 = 11.90$

$0.5 \times 1.19 = 0.60$

$12.50

or $12.50

c)
$$\begin{array}{r} {\scriptstyle 2\ \ 1\ 1} \\ 2.48 \\ \times\ 0.25 \\ \hline 1240 \\ 4960 \\ \hline .6200 \end{array}$$

$\frac{1}{4}$ of $2 → 0.50

$\frac{1}{4}$ of 48¢ → 0.12

$0.62

Homework Solutions

11. The product of 2 decimals is 0.36.
What might the decimals be?
Find as many answers as you can.

$4 \times 9 = 36$, so $0.4 \times 0.9 = 0.36$
$2 \times 18 = 36$, so $0.2 \times 1.8 = 0.36$
$1 \times 36 = 36$, so $0.1 \times 3.6 = 0.36$
$3 \times 12 = 36$, so $0.3 \times 1.2 = 0.36$

12. a) Multiply 18×12.
b) Use only the result from part a and estimation.
Find each product.
i) 1.8×12 ii) 18×0.12 iii) 0.18×12 iv) 0.18×0.12
Explain your strategies.

a) 18×12

$10 \times 18 = 180$
$2 \times 18 = 36$
216

b) $1.8 \times 12 = 21.6$
$18 \times 0.12 = 2.16$
$0.18 \times 12 = 2.16$
$0.18 \times 0.12 = 0.0216$

13. Take It Further

Homework Solutions

a) Multiply.

i) 6.3×1.8 ii) 0.37×0.26 iii) 3.52×2.4 iv) 1.234×0.9

b) Look at the questions and products in part a.
What patterns do you see in the numbers of decimal places in the question and the product?
How could you use this pattern to place the decimal point in a product without estimating?

c) Multiply: 2.6×3.5
Does the pattern from part b hold true?
If your answer is no, explain why not.

a) $\begin{array}{r} 6.3 \\ \times\ 1.8 \\ \hline 504 \\ 630 \\ \hline 11.34 \end{array}$ $\approx 6 \times 2 = 12$

b) $\begin{array}{r} {}^{1}4 \\ 0.37 \\ \times 0.26 \\ \hline 222 \\ 740 \\ \hline .0962 \end{array}$

c) $\begin{array}{r} {}^{1}3.52 \\ \times\ 2.4 \\ \hline 1408 \\ 7040 \\ \hline 8.448 \end{array}$ $\approx 3.5 \times 2$

d) $\begin{array}{r} {}^{2}{}^{3}1.234 \\ \times\ 0.9 \\ \hline 1.1106 \end{array}$ ≈ 1.234

1) 12.36 x 7.2

12.36

7.2

2472

86520

88992

2) 3.25 x 0.4

3.25

x 0.4

1300

3) 1.9 x 2.37

2.37

x 1.9

2133

2370

4503

4) 14.7 x 6.2

14.7

x 6.2

294

8820

9114

5) 60.7 x 124

60.7

x 124

2428

12140

+ 60700

75268

6) 8 x 54.7

54.7

x 8

4376

7) 12.7 + 0.25

12.70

+ 0.25

12.95

8) 14.3 - 1.24

14.30

- 1.24

13.06

9) 115.69 +

115.69

+ 21.24

136.93

Class/Homework

Quiz Tomorrow

Then Gr 7 Math Review on Decimals 2

then

Worksheet - Multiply Decimals

Slide 11& 12

Name : _____

Multiplying Decimals

Hundredths: L1S1

A) Find the product.

1) 0.44×0.15

2) 0.27×0.63

3) 0.07×0.59

4) 0.05×0.08

5) 0.14×0.02

6) 0.76×0.21

B) 1) Which of the following is the product of 0.95 and 0.22?

a) 0.209 b) 0.0029 c) 0.0209

2) Which of the following is the product of 0.03 and 0.39?

a) 0.1017 b) 0.0117 c) 0.1107

Name : _____

Multiplying Decimals

Hundredths by tenths: L2S1

Find the product.

1) $\begin{array}{r} 3.93 \\ \times\ 8.1 \\ \hline \end{array}$

2) $\begin{array}{r} 51.2 \\ \times\ 0.04 \\ \hline \end{array}$

3) $\begin{array}{r} 27.35 \\ \times\ 10.8 \\ \hline \end{array}$

4) $\begin{array}{r} 12.49 \\ \times\ 7.2 \\ \hline \end{array}$

5) $\begin{array}{r} 6.18 \\ \times\ 0.5 \\ \hline \end{array}$

6) $\begin{array}{r} 48.76 \\ \times\ 1.3 \\ \hline \end{array}$

7) $\begin{array}{r} 16.4 \\ \times\ 4.27 \\ \hline \end{array}$

8) $\begin{array}{r} 0.73 \\ \times\ 3.9 \\ \hline \end{array}$