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Unit 5, Lesson 13: Dividing Decimals by Decimals

1. A student said, "To find the value of $109.2 \div 6$, I can divide 1,092 by 60."

   a. Do you agree with this statement? Explain your reasoning.

   yes both multiplied by 10

   $\frac{109.2}{6} \cdot \frac{10}{10} = \frac{1092}{60}$

   b. Calculate the quotient of $109.2 \div 6$ using any method of your choice.

   18.2
   60 | 1092.0
   60
   492
   480
   120

   1/2

2. Here is how Han found $31.59 \div 13$:

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   2.43
13 | 31.59
   -26
    55
   -52
     39
    -39
      0
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   a. At the second step, Han subtracts 52 from 55. How do you know that these numbers represent tenths? $5.5 = \frac{55}{10}$ $5.2 = \frac{52}{10}$

   b. At the third step, Han subtracts 39 from 39. How do you know that these numbers represent hundredths?

   Because 2 places to the right of the decimal.

   1/3

   c. Check that Han's answer is correct by calculating the product of 2.43 and 13.

   2.43 (2)
   x 13 (0)
   729
   243
   31.59 (2)

3. a. Write two division expressions that have the same value as $61.12 \div 3.2$.

   611.2 ÷ 32 (×10, ×10)
   6112 ÷ 320 (×100, ×100)

   b. Find the value of $61.12 \div 3.2$. Show your reasoning.

   should be around 20

   32 x 9 = 288

   19.1
   32 | 611.2
   32
   291
   288
   3

   1/2

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x1000 = 5100 grams

4. A bag of pennies weighs 5.1 kilogram. Each penny weighs 2.5 grams. About how many pennies are in the bag? Think divide or multiply?

A. 20
B. 200
C. 2,000
D. 20,000

1/1

5. Find each difference. If you get stuck, consider drawing a diagram.

a. 2.5 – 1.6 Skip

b. 0.72 – 0.4 Skip

c. 11.3 – 1.75

$$\begin{array}{r} {}^{0}{}^{12}{}^{1} \\ 11.30 \\ -\ 1.75 \\ \hline 9.55 \end{array}$$

d. 73 – 1.3

$$\begin{array}{r} {}^{2}{}^{1} \\ 73.0 \\ -\ 1.3 \\ \hline 71.7 \end{array}$$

1/2

(from Unit 5, Lesson 3)

6. Plant B is $6\frac{2}{3}$ inches tall. Plant C is $4\frac{4}{15}$ inches tall. Complete the sentences and show your reasoning.

$4\frac{4}{15} \div 6\frac{2}{3}$ $\frac{64}{15} \div \frac{20}{3}$ $\frac{{}^{16}64}{15_{5}} \times \frac{3}{20_{5}} = \frac{16}{25}$

a. Plant C is _____ times as tall as Plant B.
shorter taller

b. Plant C is 2 2/5 inches shorter (taller or shorter) than Plant B.

$6\frac{2}{3}, \frac{5}{5}$ $6\frac{10}{15}$

$-\ 4\frac{4}{15}$ $-\ 4\frac{4}{15}$

$2\frac{6}{15} = 2\frac{2}{5}$

1/2

(from Unit 4, Lesson 12)

7. At a school, 460 of the students walk to school.

1/5 = .2

a. The number of students who take public transit is 20% of the number of students who walk. How many students take public transit?

460 · .2 (1) = 92.0

92

b. The number of students who bike to school is 5% of the number of students who walk. How many students bike to school?

1/20 or .05

3460 · .05 (2) = 23.00

23 students

1/2