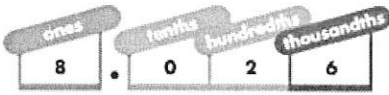


Summer Math Work for Incoming 6th Grade

- Show steps for all problems.
- The left column reminds you how to do each problem type.
- Simplify all fraction answers.
- If you have questions, write your question next to the problem.
- The packet is due on the first day of school.

<p>Write the number name and tell the value of the underlined digit for $930,365$.</p> <p>Nine hundred thirty thousand, three hundred sixty-five</p> <p>Since the 0 is in the thousands place, its value is 0 thousands, or 0.</p>	<p>1. Write the number name and tell the value of the underlined digit:</p> <p>a. $25,678$</p> <p>b. $17,874,000$</p> <p>c. $485,002,000$</p>
<p>A place-value chart can help you write the standard form, expanded form, and number name for a decimal.</p>  <p>Standard form: 8.026</p> <p>Expanded form: $8 + 2 \times \frac{1}{100} + 6 \times \frac{1}{1,000}$</p> <p>Number name: Eight and twenty-six thousandths</p>	<p>2. Write each number in standard form:</p> <p>a. Eight and fifty-nine hundredths</p> <p>b. Seven and three thousandths</p>
<p>Compare. Write $>$, $<$, or $=$.</p> <p>8.45 ○ 8.47</p> <p>Line up the decimal points. Start at the left to compare. Find the first place where the digits are different.</p> $\begin{array}{r} 8.45 \\ 8.47 \\ \hline \end{array}$ <p>$0.05 < 0.07$</p> <p>So, $8.45 < 8.47$.</p>	<p>3. Compare. Write $>$, $<$, or $=$.</p> <p>a. 0.584 _____ 0.58</p> <p>b. 9.327 _____ 9.236</p> <p>c. 5.2 _____ 5.20</p> <p>d. 5.643 _____ 5.675</p> <p>e. 0.07 _____ 0.08</p>

Round 12.087 to the place of the underlined digit.

12.087 Look at the digit following the underlined digit. Look at 7.

Round to the next greater number of hundredths because $7 > 5$.

12.087 rounded to the nearest hundredth is 12.09.

Remember that rounding a number means replacing it with a number that tells about how many or how much.

4. Round each number to the place of the underlined digit.

a. 10.245

b. 73.4

c. 0.145

d. 3.999

e. 13.023

f. 45.398

Lucy bought 3.12 pounds of pears and 9 pounds of apples. Find how many more pounds of apples than pears Lucy bought.

Write the numbers. Add a decimal point to the whole number. Annex zeros. Line up the decimal points.

$$\begin{array}{r} 9.00 \\ - 3.12 \\ \hline \end{array}$$

Subtract the hundredths, tenths, and ones.

$$\begin{array}{r} ^{\text{9}}\text{8}^{\text{10}}\text{0}^{\text{10}} \\ ^{\text{9}}\text{0}^{\text{10}}\text{0}^{\text{10}} \\ - 3.12 \\ \hline 5.88 \end{array}$$

5. Add or subtract. Show all work in the space below.

a. $7.06 + 0.85$

b. $24.07 - 5.316$

c. $51.92 - 28.003$

d. $8.71 - 0.4$

e. $98 + 3.79$

f. Talia measured two strings. The green string was 2.37 cm long. The blue string was 4 cm long. How many centimeters longer was the blue string than the green string?

Find 53×406 .

Estimate: $50 \times 400 = 20,000$

Multiply the ones. Multiply the tens. Then add the partial products.

$$\begin{array}{r} \overset{3}{4}06 \\ \times 53 \\ \hline 1218 \leftarrow 3 \times 406 \\ + \underline{20300} \leftarrow 50 \times 406 \\ \hline 21,518 \end{array}$$

6. Find each product. Show all work in the space below.

a. 54×9

b. 76×59

c. 47×302

d. $7,133 \times 4$

Find 12×0.15 .

Step 1

Multiply as you would with whole numbers.

$$\begin{array}{r} 12 \\ \times 0.15 \\ \hline 60 \\ + 120 \\ \hline 180 \end{array}$$

Step 2

Count the decimal places in both factors. Then, place the decimal point in the product the same number of places from the right.

$$\begin{array}{r} 12 \\ \times 0.15 \text{ 2 places} \\ \hline 60 \\ + 120 \\ \hline 1.80 \end{array}$$

So, $12 \times 0.15 = 1.8$.

7. Find each product. Use grids or arrays as necessary. Show all work in the space below.

- a. 50×3.67
- b. 5.86×5
- c. 11×0.06
- d. 5.62×75

Find 52.5×1.9 .

Estimate: $50 \times 2 = 100$.

$$\begin{array}{r} 52.5 \longleftarrow 1 \text{ decimal place} \\ \times 1.9 \longleftarrow + 1 \text{ decimal place} \\ \hline 4725 \\ 5250 \\ \hline 99.75 \longleftarrow 2 \text{ decimal places} \end{array}$$

The answer is reasonable because 99.75 is close to 100.

8. Find each product. Remember to count the number of decimal places in both factors to place the decimal correctly in the product. Show all work in the space below.

- a. 0.9×0.11
- b. 2.4×3.67
- c. 0.25×0.3

Find $789 \div 19$.

Estimate first: $800 \div 20 = 40$.

So, the first digit of the quotient is in the tens place.

Divide the tens. Multiply, subtract, and compare.

$$\begin{array}{r} 41 \text{ R}10 \\ 19 \overline{)789} \\ \underline{-76} \\ 29 \\ \underline{-19} \\ 10 \end{array}$$

Bring down the ones. Divide the ones. Multiply, subtract, and compare. Compare the quotient with your estimate.

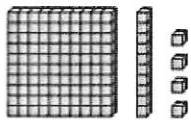
9. Find each quotient. Show all work in the space below.

a. $16 \overline{)224}$

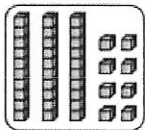
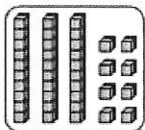
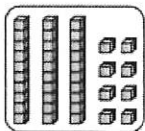
b. $58 \overline{)7,211}$

c. $12 \overline{)3,549}$

Find $1.14 \div 3$.



Estimate first.
 $1.14 \div 3$ is less than 1, so start dividing in the tenths place.



$$\begin{array}{r} 0.38 \\ 3 \overline{)1.14} \\ \underline{-9} \\ 24 \\ \underline{-24} \\ 0 \end{array}$$

10. Divide. Show all work in the space below.

a. $6.58 \div 7$

b. $34.2 \div 3$

Find $57.9 \div 0.6$.

Since 0.6 has one decimal place, move the decimal point one place to the right in both the divisor and the dividend. Then divide.

$$\begin{array}{r} 96.5 \\ 0.6 \overline{)57.90} \\ \underline{54} \\ 39 \\ \underline{36} \\ 30 \\ \underline{30} \\ 0 \end{array}$$

Annex more zeros in the dividend if needed.

So, $57.9 \div 0.6 = 96.5$.

11. Divide. Remember to place the decimal point in the quotient above the decimal point in the dividend before dividing. Show all work in the space below.

- $16.4 \div 0.8$
- $40.02 \div 8.7$
- $9.6 \div 0.03$

Find a common denominator for $\frac{4}{9}$ and $\frac{1}{3}$. Then rename each fraction as an equivalent fraction with the common denominator.

Step 1 Multiply the denominators:
 $9 \times 3 = 27$, so 27 is a common denominator.

Step 2 Rename the fractions:

$$\frac{4}{9} = \frac{4}{9} \times \frac{3}{3} = \frac{12}{27}$$

$$\frac{1}{3} = \frac{1}{3} \times \frac{9}{9} = \frac{9}{27}$$

So, $\frac{4}{9} = \frac{12}{27}$ and $\frac{1}{3} = \frac{9}{27}$.

12. Find the common denominator for each pair of fractions. Then rename each fraction as an equivalent fraction with the common denominator.

a. $\frac{3}{5}$ and $\frac{7}{10}$

b. $\frac{5}{6}$ and $\frac{7}{18}$

c. $\frac{3}{7}$ and $\frac{1}{4}$

Find $\frac{5}{6} - \frac{3}{4}$.

Step 1 Find a common denominator by listing multiples of 6 and 4.

6: 6, 12, 18, 24, 30, 36, 42

4: 4, 8, 12, 16, 20, 24, 28, 32

12 is a common multiple of 6 and 4, so use 12 as the common denominator.

Step 2 Use the Identity Property to write equivalent fractions.

$$\frac{5}{6} = \frac{5 \times 2}{6 \times 2} = \frac{10}{12} \quad \frac{3}{4} = \frac{3 \times 3}{4 \times 3} = \frac{9}{12}$$

Step 3 Subtract.

$$\frac{10}{12} - \frac{9}{12} = \frac{1}{12}$$

13. Add or subtract the fractions. Simplify your answers. Show all work in the space below..

a. $\frac{2}{5} + \frac{3}{10}$

b. $\frac{1}{9} + \frac{5}{6}$

c. $\frac{3}{4} - \frac{5}{12}$

d. $\frac{7}{8} - \frac{2}{3}$

Gil has two lengths of wallpaper, $2\frac{3}{4}$ yards and $1\frac{7}{8}$ yards long. He used some and now has $1\frac{5}{6}$ yards left. How many yards of wallpaper did Gil use?

Step 1

Add to find the total amount of wallpaper Gil has.

$$\begin{array}{r} 2\frac{3}{4} = 2\frac{18}{24} \\ + 1\frac{7}{8} = 1\frac{21}{24} \\ \hline 3\frac{39}{24} \end{array}$$

Gil used $2\frac{19}{24}$ yards of wallpaper.

Step 2

Subtract to find the amount of wallpaper Gil used.

$$\begin{array}{r} 3\frac{39}{24} = 3\frac{39}{24} \\ - 1\frac{5}{6} = 1\frac{20}{24} \\ \hline 2\frac{19}{24} \end{array}$$

14. Add or subtract the mixed numbers. Show all work in the space below.

a. $5\frac{1}{2} + 2\frac{1}{8}$

b. $7\frac{5}{6} - 3\frac{2}{3}$

c. $3\frac{1}{4} + 1\frac{5}{6}$

d. $9 - 3\frac{3}{8}$

Find $\frac{4}{5} \times \frac{3}{4}$.

Multiply the numerators to find the numerator of the product. Multiply the denominators to find the denominator of the product.

$$\frac{4}{5} \times \frac{3}{4} = \frac{4 \times 3}{5 \times 4} = \frac{12}{20} \text{ or } \frac{3}{5}$$

15. Multiply the fractions. Then, simplify. Show all work in the space below.

a. $\frac{6}{7} \times \frac{1}{2}$

b. $\frac{3}{8} \times \frac{8}{3}$

c. $\frac{7}{8} \times \frac{3}{2}$

Find $3\frac{1}{2} \times 2\frac{7}{8}$.

Estimate: $3\frac{1}{2} \times 2\frac{7}{8}$ is about $4 \times 3 = 12$.

Rename fractions, then multiply.

$$\frac{7}{2} \times \frac{23}{8} = \frac{161}{16} = 10\frac{1}{16}$$

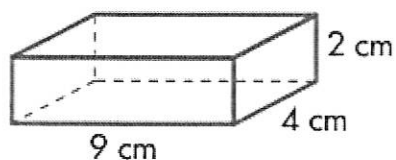
The product $10\frac{1}{16}$ is close to the estimate, 12.

16. Multiply the mixed numbers. Rewrite your final answer as a mixed number. Show all work in the space below.

a. $2\frac{1}{3} \times 4\frac{1}{5}$

b. $3\frac{3}{5} \times 2\frac{5}{7}$

Find the volume of this rectangular prism.



Volume = length \times width \times height

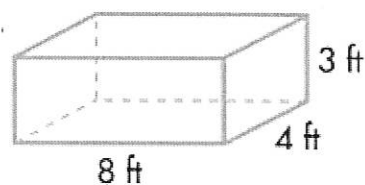
$$V = \ell \times w \times h$$

$$= 9 \text{ cm} \times 4 \text{ cm} \times 2 \text{ cm}$$

$$V = 72 \text{ cubic centimeters or } 72 \text{ cm}^3$$

The volume of the prism is 72 cm^3 .

17. Find the volume of the rectangular prism.



Use the order of operations to evaluate
 $50 + (8 + 2) \times (14 - 4)$.

Order of Operations

- 1 Calculate inside parentheses, brackets, and braces.
- 2 Multiply and divide from left to right.
- 3 Add and subtract from left to right.

Perform the operations inside the parentheses, brackets, and braces.

$$50 + (8 + 2) \times (14 - 4) = 50 + 10 \times 10$$

Multiply and divide in order from left to right.

$$50 + 10 \times 10 = 50 + 100$$

Add and subtract in order from left to right.

$$50 + 100 = 150$$

18. Evaluate each expression. Show all work in the space below.

- a. $4 + 8 \times 6 \div 2 + 3$
- b. $[(8 \times 25) \div 5] + 120$
- c. $(18 - 3) \div 5 + 4$
- d. $8 \times 5 + 7 \times 3 - (10 - 5)$