

1-1 E

Reteach

Multiply Decimals

When you multiply a decimal by a decimal, multiply the numbers as if you were multiplying all whole numbers. To decide where to place the decimal point, find the sum of the number of decimal places in each factor. The product has the same number of decimal places.

Example 1 Find 5.2×6.13 .

Estimate: 5×6 or 30

$$\begin{array}{r}
 5.2 \leftarrow \text{one decimal place} \\
 \times 6.13 \leftarrow \text{two decimal places} \\
 \hline
 156 \\
 52 \\
 +312 \\
 \hline
 31.876 \leftarrow \text{three decimal places}
 \end{array}$$

The product is 31.876. Compared to the estimate, the product is reasonable.

Example 2 Find 2.3×0.02 .

Estimate: 2×0.02 or 0.04

$$\begin{array}{r}
 2.3 \leftarrow \text{one decimal places} \\
 \times 0.02 \leftarrow \text{two decimal place} \\
 \hline
 0.046 \leftarrow \text{Annex a zero to make three decimal places.}
 \end{array}$$

The product is 0.046. Compared to the estimate, the product is reasonable.

Exercises

Multiply.

1. 7.2×2.1

2. 4.3×8.5

3. 2.64×1.4

4. 14.23×8.21

5. 5.01×11.6

6. 9.001×4.2

7. 3.24×0.008

8. 0.012×2.9

9. 0.9×11.2

2-2 B

NAME _____ DATE _____ PERIOD _____

Reteach

Multiply Fractions

To multiply fractions, multiply the numerators and then multiply the denominators.

$$\frac{2}{3} \times \frac{4}{5} = \frac{2 \times 4}{3 \times 5} = \frac{8}{15}$$

Example 1 Find $\frac{2}{5} \times \frac{3}{4}$. Estimate $\frac{1}{2} \times 1 = \frac{1}{2}$

$$\begin{aligned} \frac{2}{5} \times \frac{3}{4} &= \frac{2 \times 3}{5 \times 4} \\ &= \frac{6}{20} \text{ or } \frac{3}{10} \end{aligned}$$

Multiply the numerators. Multiply the denominators.

Simplify. Compare to the estimate.

If the numerator and denominator have a common factor, you can simplify *before* you multiply.

Example 2 Find $\frac{2}{5} \times \frac{3}{8}$. Estimate $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$

$$\begin{aligned} \frac{2}{5} \times \frac{3}{8} &= \frac{\overset{1}{\cancel{2}} \times 3}{5 \times \underset{4}{\cancel{8}}} \\ &= \frac{3}{20} \end{aligned}$$

Divide both the numerator and denominator by the common factor, 2.

Simplify. Compare to the estimate.

Exercises

Multiply.

1. $\frac{1}{2} \times \frac{5}{7}$

2. $\frac{3}{4} \times \frac{2}{3}$

3. $\frac{5}{6} \times \frac{1}{3}$

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

5. $\frac{1}{4} \times \frac{5}{6}$

6. $\frac{3}{7} \times \frac{3}{4}$

7. $\frac{1}{5} \times 4$

8. $\frac{5}{12} \times 2$

9. $\frac{3}{5} \times 10$

10. $\frac{2}{3} \times \frac{3}{8}$

11. $\frac{1}{7} \times \frac{1}{7}$

12. $\frac{2}{9} \times \frac{1}{2}$

13. $\frac{1}{3} \times \frac{5}{7}$

14. $\frac{1}{8} \times \frac{5}{9}$

15. $\frac{4}{9} \times 10$

16. $\frac{5}{6} \times \frac{9}{15}$

