

# Estimating the Product of a Decimal and a Whole Number

You can estimate when you are multiplying a decimal by a whole number to check the reasonableness of your product.

Zane needs to buy 27 lb of roast beef for the company party. The roast beef costs \$2.98 per pound. About how much will the roast beef cost?

There are two ways to estimate.

Round both numbers

$$\begin{array}{r} \$2.98 \times 27 \\ \downarrow \quad \downarrow \\ \$3 \times 30 = \$90 \end{array}$$

The roast beef will cost about \$90.

Adjust your factors to compatible numbers you can multiply mentally.

$$\begin{array}{r} \$2.98 \times 27 \\ \downarrow \quad \downarrow \\ \$3 \times 25 = \$75 \end{array}$$

The roast beef will cost about \$75.

Estimate each product.

1.  $0.8 \times 22$  \_\_\_\_\_

2.  $19.3 \times 6$  \_\_\_\_\_

3.  $345 \times 5.79$  \_\_\_\_\_

4.  $966 \times 0.46$  \_\_\_\_\_

Use the chart to answer questions 5 through 7.

5. About how much would it cost for Angelina and her 4 sisters to get a shampoo and a haircut?

\_\_\_\_\_

\_\_\_\_\_

Treatment	Cost
Shampoo	\$7.95
Haircut	\$12.95
Coloring	\$18.25
Perm	\$22.45

6. Could 3 of the sisters get their hair colored for less than \$100?

\_\_\_\_\_

7. Angelina gets 9 haircuts per year. About how much does she spend on haircuts for the year?

\_\_\_\_\_

Name \_\_\_\_\_

# Estimating the Product of a Decimal and a Whole Number

Estimate each product using rounding or compatible numbers.

1.  $0.97 \times 312$

\_\_\_\_\_

2.  $8.02 \times 70$

\_\_\_\_\_

3.  $31.04 \times 300$

\_\_\_\_\_

4.  $0.56 \times 48$

\_\_\_\_\_

5.  $0.33 \times 104$

\_\_\_\_\_

6.  $0.83 \times 12$

\_\_\_\_\_

7.  $0.89 \times 51$

\_\_\_\_\_

8.  $4.05 \times 11$

\_\_\_\_\_

9.  $0.13 \times 7$

\_\_\_\_\_

10.  $45.1 \times 5$

\_\_\_\_\_

11.  $99.3 \times 92$

\_\_\_\_\_

12.  $47.2 \times 93$

\_\_\_\_\_

13. Mr. Webster works 4 days a week at his office and 1 day a week at home. The distance to Mr. Webster's office is 23.7 miles. He takes a different route home, which is 21.8 miles. When Mr. Webster works at home, he drives to the post office once a day, which is 2.3 miles from his house. Which piece of information is not important in figuring out how many miles Mr. Webster drives per week to his office?

- A the number of days at the office
- B the distance to his office
- C the distance to the post office
- D the distance from his office

14. Mrs. Smith bought her three children new snowsuits for winter. Each snowsuit cost \$25.99. How much did Mrs. Smith pay in all?

- A \$259.90
- B \$77.97
- C \$51.98
- D \$25.99

15. How can estimating be helpful before finding an actual product?

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