

# Estimating Products and Quotients



## Quick Review

- Here are 2 strategies you can use to estimate  $5.81 \times 7$ .

• **Front-end estimation**

Write 5.81 as 5.

Multiply:  $5 \times 7 = 35$

This is an underestimate because 5 is less than 5.81.

• **Decimal benchmarks**

Since 5.81 is closer to 6 than to 5, write 5.81 as 6.

Multiply:  $6 \times 7 = 42$

This is an overestimate because 6 is greater than 5.81.

- Here are 2 strategies you can use to estimate  $284.76 \div 5$ .

• **Front-end estimation**

Write 284.76 as 200.

Divide:  $200 \div 5 = 40$

This is an underestimate because 200 is less than 284.76.

• **Compatible numbers**

Since 284.76 is close to 300,

divide:  $300 \div 5 = 60$

This is an overestimate because 300 is greater than 284.76.

## Try These

1. Estimate each product. Show your work.

a)  $5.23 \times 7$  \_\_\_\_\_ b)  $25.783 \times 4$  \_\_\_\_\_

c)  $9.96 \times 4$  \_\_\_\_\_ d)  $6.7 \times 7$  \_\_\_\_\_

2. Estimate each quotient. Show your work.

a)  $15.9 \div 8$  \_\_\_\_\_ b)  $18.12 \div 2$  \_\_\_\_\_

c)  $42.035 \div 6$  \_\_\_\_\_ d)  $159.4 \div 8$  \_\_\_\_\_

3. Estimate the area of a 3.68-cm-by-8-cm rectangle. \_\_\_\_\_

4. Estimate the side length of a square with perimeter:

a) 24.8 m \_\_\_\_\_ b) 29.0 m \_\_\_\_\_

## Practice

1. Estimate each product or quotient.

a)  $5.76 \times 5$

\_\_\_\_\_

b)  $29.945 \times 3$

\_\_\_\_\_

c)  $16.04 \times 9$

\_\_\_\_\_

d)  $15.4 \div 3$

\_\_\_\_\_

e)  $31.95 \div 8$

\_\_\_\_\_

f)  $158.02 \div 2$

\_\_\_\_\_

2. Tell if each estimate in question 1 is an overestimate or an underestimate.

a) \_\_\_\_\_

b) \_\_\_\_\_

c) \_\_\_\_\_

d) \_\_\_\_\_

e) \_\_\_\_\_

f) \_\_\_\_\_

3. A jogger's heart pumps about 14.25 L of blood per minute.

Estimate the volume of blood pumped in 8 min. \_\_\_\_\_

4. Calvin sponsored Magda \$4.75 for every kilometre she ran.

Magda ran 9 km. About how much did Calvin pay Magda? \_\_\_\_\_

5. Six friends equally shared the cost of a \$23.59 pizza.

About how much did each person pay? \_\_\_\_\_

6. The table shows the masses of some Canadian coins.

Estimate the combined mass of:

a) 8 pennies \_\_\_\_\_ b) 9 nickels \_\_\_\_\_

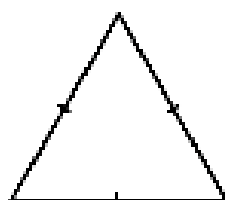
c) 7 dimes \_\_\_\_\_

Coin	Mass (g)
Penny	2.35
Nickel	3.95
Dime	1.75

## Stretch Your Thinking

Estimate the perimeter of each regular polygon.

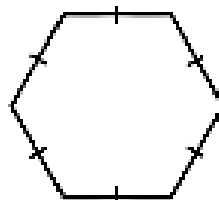
a)



6.37 m

\_\_\_\_\_

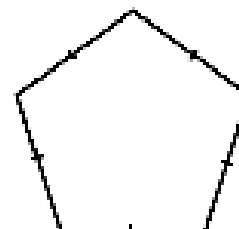
b)



4.587 cm

\_\_\_\_\_

c)



7.8 m

\_\_\_\_\_