



SKILL 11: Estimating Products

To estimate products, round each factor so that the computation is easy. Then multiply mentally.

Example 1

Estimate: 386×2.9 .

$$386 \times 2.9$$

$$\begin{array}{c} \downarrow \quad \downarrow \\ 400 \times 3 = 1,200 \end{array}$$

$$400 \times 3 = 1,200$$

Round 386 to 400.

Round 2.9 to 3.

Multiply 400×3 mentally.

An estimate of this product is 1,200.

Example 2

Estimate: 0.75×6.099 .

$$0.75 \times 6.099$$

$$\begin{array}{c} \downarrow \quad \downarrow \\ 0.8 \times 6 = 4.8 \end{array}$$

$$0.8 \times 6 = 4.8$$

Round 0.75 to 0.8.

Round 6.099 to 6.

Then multiply. Remember to put the decimal point in the answer.

An estimate of this product is 4.8.

Guided Practice

Estimate each product. Round each factor to make the computation easy.

1. 3.81×3.1

$$\begin{array}{c} \downarrow \quad \downarrow \\ 4 \times 3 = \underline{\quad} \end{array}$$

2. 12.34×9.5

$$\begin{array}{c} \downarrow \quad \downarrow \\ 10 \times 10 = \underline{\quad} \end{array}$$

3. 0.513×7.47

$$\begin{array}{c} \downarrow \quad \downarrow \\ 0.5 \times 7 = \underline{\quad} \end{array}$$

Estimate each product. Show what numbers you used.

4. 0.93×8.7

$$\begin{array}{c} \downarrow \quad \downarrow \\ \underline{\quad} \times \underline{\quad} = \underline{\quad} \end{array}$$

5. 4.3×375.9

$$\begin{array}{c} \downarrow \quad \downarrow \\ \underline{\quad} \times \underline{\quad} = \underline{\quad} \end{array}$$

6. 3.2×0.7

$$\begin{array}{c} \downarrow \quad \downarrow \\ \underline{\quad} \times \underline{\quad} = \underline{\quad} \end{array}$$

7. 8.7×49.61

$$\begin{array}{c} \downarrow \quad \downarrow \\ \underline{\quad} \times \underline{\quad} = \underline{\quad} \end{array}$$

8. 6.67×0.35

$$\begin{array}{c} \downarrow \quad \downarrow \\ \underline{\quad} \times \underline{\quad} = \underline{\quad} \end{array}$$

9. 27.6×0.05

$$\begin{array}{c} \downarrow \quad \downarrow \\ \underline{\quad} \times \underline{\quad} = \underline{\quad} \end{array}$$

SKILL 11: Practice

Estimate each product. Round to make the computation easy.

1. 6.43×8.7



_____ \times _____ = _____

2. 34.5×9.6



_____ \times _____ = _____

3. 3.07×1.85



_____ \times _____ = _____

4. 93.9×0.4



_____ \times _____ = _____

5. 0.49×5.1



_____ \times _____ = _____

6. 106.9×0.008



_____ \times _____ = _____

7. 9.832×6.5

8. 14.3×7.08

9. 22.049×3.27

10. 4.63×0.9

11. 6.2×7.746

12. 317×0.4

13. 6.15×99.9

14. 0.609×21.4

15. 7×0.083

16. 0.9×7.9

17. 32.1×4.8

18. 105.2×3.8

A light-year is the distance light travels in a year. It is about 9.5 trillion kilometers. Use this information to answer each question.

19. Alpha Centauri C is about 4.3 light-years from Earth. Estimate this distance in trillion kilometers. (Hint: Estimate 4.3×9.5 .)

20. Sirius is about 8.6 light-years from Earth. Estimate this distance in trillion kilometers.



21. Which of these is the best estimate for 19.06×8.7 ?

A 180

C 1,800

B 18

D 0.018

Skill 11

22. Subtract: $9.7 - 0.74$.

F 2.3

H 9.06

G 9.96

J 8.96

Skill 7