Section 6.R.1 Estimating and Order of Operations with Decimal Numbers

Go to Section 6.R.1 Learn mode in Hawkes to follow along!

Estimating Sums and Differences

We can estimate a sum (or difference) by rounding each number to the place of the _____

_____

Example 1 Estimating Sums of Decimal Numbers

Estimate the sum; then find the actual sum.

$$74 + 3.529 + 52.61$$

Solution

Exercises

Estimate each sum; then find the actual sum.

1. $58.2 + 63.02$

2. $13 + 8.79$

3. $9.66 + 14$

4. $51.07 + 45.2 + 6.19$

Estimate each difference; then find the actual difference.

5. $22 - 12.91$

6. $204 - 38.08$

7. $0.345 - 0.0691$

8. $4732.61 - 931.98$

Solve.

9. Five boxes of unequal size are placed side-by-side along a wall, where the first box is 2.36 feet wide, the second is 1.76 feet wide, the third is 3.8 feet wide, the fourth is 0.94 feet wide, and the fifth is 6.17 feet wide.

a. Estimate the length of all the boxes together.

b. Calculate the actual length of all the boxes together.

Estimating Products and Quotients

Estimating products can be done by rounding each number to the place of the _____

_____

In order to estimate with division, round both the _____

_____

Example 3 Estimating Products of Decimal Numbers

Estimate the product; then find the actual product.

$$(0.356)(6.1)$$

Solution

Exercises

Estimate each product; then find the actual product.

10. 5.08×0.4

11. $(1.62)(0.03)$

12. $1.62(0.003)$

13. 86.1×0.057

Estimate each quotient; then find the actual quotient rounded to the nearest hundredth, if necessary.

14. $0.03\overline{)28.34}$

15. $282.4 \div 3.6$

16. $23\overline{)71}$

17. $24.31 \div 85.3$

Solve.

18. A quarter section of beef can be bought cheaper than the same amount of meat purchased a few pounds at a time. Suppose it costs \$765.80 to purchase a quarter section which weighs 150 pounds.

a. Estimate the cost per pound for this quarter section.

b. What is the actual cost per pound for this quarter section?

Order of Operations with Decimal Numbers

Example 7 Using the Order of Operations with Decimal Numbers

Simplify. $2.1(-45.2+10.8)-15.38$

Solution

Exercises

Simplify.

19. $1.5^2 - 4.25 \div 0.25$

20. $\dfrac{14.26-6.56}{2.5}$

21. $40.7-\left(2.5^2+7.25\right)\div 0.5$

22. $(4.2+4.8)\cdot\left(3.3^2-9.9\right)+7.2$