

4.NBT.B.4 Estimate Sums and Differences Using Rounding

4.NBT.B.4: Fluently add and subtract multi-digit whole numbers using the standard algorithm.

1. Use rounding to the nearest thousand to estimate.

a.
$$\begin{array}{r} 8,134 \\ - 6,751 \\ \hline \end{array}$$

c.
$$\begin{array}{r} 4,741 \\ + 3,491 \\ \hline \end{array}$$

e.
$$\begin{array}{r} 5,634 \\ + 2,160 \\ \hline \end{array}$$

b.
$$\begin{array}{r} 7,774 \\ + 1,415 \\ \hline \end{array}$$

d.
$$\begin{array}{r} 3,539 \\ + 1,200 \\ \hline \end{array}$$

f.
$$\begin{array}{r} 9,934 \\ - 7,151 \\ \hline \end{array}$$

Solution:

- a.
- b.
- c.
- d.
- e.
- f.

2. Estimate after rounding to the nearest hundred and the nearest thousand. Which sum is closer to the exact sum?

a.
$$\begin{array}{r} 58,400 \\ + 16,851 \\ \hline \end{array}$$

b.
$$\begin{array}{r} 47,207 \\ - 28,792 \\ \hline \end{array}$$

Solution:

- a.
- b.

3. Use compatible numbers to estimate the sum or the difference.

a. $412 + 54 + 39$

b. $358 + 63 - 21$

c. $5,242 - 198$

d. $67,156 + 12,901$

e. $42,103 - 21,812$

f. $15,168 + 21,905 + 3,100$

Solution:

- a.
- b.
- c.
- d.
- e.
- f.

4. A submarine is navigating at the depth of 452 feet in the sea. It dives another 175 feet at the command of the captain. Which is the best estimate of the current depth of the submarine?

A. 600 feet

B. 620 feet

C. 630 feet

D. 700 feet

Solution:

5. The area of Hyde Park is 350 acres. Prospect Park is spread over 586 acres. Roger estimated the total area of both parks about 940 acres. Is he correct? Can you find better estimate?

Solution:

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Answer Key

1. Use rounding to the nearest thousand to estimate.

$$\begin{array}{r} \text{a. } 8,134 \\ - 6,751 \\ \hline \end{array}$$

$$\begin{array}{r} \text{c. } 4,741 \\ + 3,491 \\ \hline \end{array}$$

$$\begin{array}{r} \text{e. } 5,634 \\ + 2,160 \\ \hline \end{array}$$

$$\begin{array}{r} \text{b. } 7,774 \\ + 1,415 \\ \hline \end{array}$$

$$\begin{array}{r} \text{d. } 3,539 \\ + 1,200 \\ \hline \end{array}$$

$$\begin{array}{r} \text{f. } 9,934 \\ - 7,151 \\ \hline \end{array}$$

Solution:

- a. 1,000
- b. 9,000
- c. 8,000
- d. 5,000
- e. 8,000
- f. 3,000

2. Estimate after rounding to the nearest hundred and the nearest thousand. Which sum is closer to the exact sum?

$$\begin{array}{r} \text{a. } 58,400 \\ + 16,851 \\ \hline \end{array}$$

$$\begin{array}{r} \text{b. } 47,207 \\ - 28,792 \\ \hline \end{array}$$

Solution:

- a. Nearest hundred: 75,300
Nearest thousand: 75,000
 - b. Nearest hundred: 18,400
Nearest thousand: 18,000
- Summation after rounding to the nearest hundred is closer to the exact sum.

3. Use compatible numbers to estimate the sum or the difference.

$$\text{a. } 412 + 54 + 39$$

$$\text{b. } 358 + 63 - 21$$

$$\text{c. } 5,242 - 198$$

$$\text{d. } 67,156 + 12,901$$

$$\text{e. } 42,103 - 21,812$$

$$\text{f. } 15,168 + 21,905 + 3,100$$

Solution:

- a. $410 + 50 + 40 = 500$
- b. $360 + 60 - 20 = 400$
- c. $5,200 - 200 = 5,000$
- d. $67,000 + 13,000 = 80,000$
- e. $42,000 - 22,000 = 20,000$
- f. $15,000 + 22,000 + 3,000 = 40,000$

4. A submarine is navigating at the depth of 452 feet in the sea. It dives another 175 feet at the command of the captain. Which is the best estimate of the current depth of the submarine?

A. 600 feet

B. 620 feet

C. 630 feet

D. 700 feet

Solution:

A

5. The area of Hyde Park is 350 acres. Prospect Park is spread over 586 acres. Roger estimated the total area of both parks about 940 acres. Is he correct? Can you find better estimate?

Solution:

$400 + 600 = 1,000$; Roger is correct in his estimation because summation after rounding to the nearest tens will get closer to the exact sum.