

Rounding and Estimating with Large Numbers

We can round numbers to the nearest ten, to the nearest hundred, to the nearest thousand, to the nearest ten thousand, and so on—to *any* place. No matter what place we are rounding to, the **rules of rounding** are the same.

Rules of rounding whole numbers

Look at the digit AFTER the place you are rounding to:

- If that digit is 0, 1, 2, 3, or 4, then round DOWN.
- If that digit is 5, 6, 7, 8, or 9, then round UP.
- Change to zeros all the digits *after* the place you are rounding to.
- If rounding up, the digit in the place you are rounding to is increased by 1.

Remember, the squiggly equals sign (“ \approx ”) is read “is about,” or “is approximately.”

To help us, let’s draw a line \vdots between the digit we are rounding to and the next smaller one.

Rounding to the nearest TEN: $2,5\dot{6}7 \approx 2,57\dot{0}$ $395,8\dot{4}9 \approx 395,85\dot{0}$	Rounding to the nearest HUNDRED: $2,5\dot{6}7 \approx 2,6\dot{0}0$ $395,8\dot{4}9 \approx 395,8\dot{0}0$	Rounding to the nearest THOUSAND: $23,\dot{8}02 \approx 24,\dot{0}00$ $980,\dot{0}97 \approx 980,\dot{0}00$
Rounding to the nearest TEN THOUSAND: $72,\dot{6}451 \approx 73,\dot{0}000$ $95,\dot{3}987 \approx 95,\dot{0}000$	Rounding to the nearest HUNDRED THOUSAND: $8,\dot{6}7,300 \approx 9,\dot{0}0,000$ $1,\dot{2}6,835 \approx 1,\dot{0}0,000$	

1. Round the numbers as the dashed line indicates (to the underlined digit).

a. $4\dot{5}2,550 \approx$	b. $8\dot{6},256 \approx$	c. $77,\dot{5}79 \approx$
d. $24\dot{5},250 \approx$	e. $8,\dot{9}4,077 \approx$	f. $38\dot{5},706 \approx$
g. $6,\dot{1}5,493 \approx$	h. $5,\dot{2}7,009 \approx$	i. $2,\dot{5}2,000 \approx$
j. $2,\dot{6},566 \approx$	k. $9\dot{4}4,032 \approx$	l. $33\dot{5},700 \approx$
m. $48,4\dot{2}1 \approx$	n. $8,\dot{5}55 \approx$	o. $40,\dot{9},239 \approx$