Estimation

Grade 4: Rounding Numbers

Estimation

Rounding numbers :

eg. Round off 714 and 2865 to the nearest ten.

714 ⇒ 710

2865 ⇒ 2870

19682 ⇒ 19680

Rounding numbers to the nearest Hundred

638 ⇒ 600

600 — 638 — 700

683 ⇒ 700

7482 ⇒ 7500

7400 — 7500

1634 ⇒ 1600

8453 ⇒ 8500

17819 ⇒ 17800

Rounding numbers to the nearest Thousand

Eg. $9387 \Rightarrow 9000$

$10639 \Rightarrow 11000$

$4759 \Rightarrow 5000$

$17019 \Rightarrow 17000$

Q. Estimate the following sums to the nearest ten. Also find the actual sum.

(a) $64 + 89$

Estimate

$64 \rightarrow 60$ (+4)

$89 \rightarrow 90$ (−1)

$60 + 90 = 150$

Actual sum = 153

(b) $49 + 32$ $\Rightarrow$ Estimated sum $50 + 30 = 80$

Actual sum $= 49 + 32 = 81$

Q. There are 53 balls in Box A. and 69 balls in Box B. Estimate the total number of balls in both the boxes taken together.

$53 \rightarrow 50$

$69 \rightarrow 70$

$50 + 70 = 120$ balls.

Q. Aditya purchased a bag for ₹ 378 and a shirt for ₹ 636. Estimate the total money spent by him on both the items.

$378 \Rightarrow ₹400$

$636 \Rightarrow ₹600$

$₹(400 + 600)$

$₹1000$

Q. Anand has ₹ 500. He wants to buy a dictionary for ₹ 274 and a novel for ₹ 185. Does he have enough money?

Total amt. spent $= ₹(274 + 185) = ₹459$

Remaining amt. $= ₹(500 - 459) = ₹ 41$.

Q. Estimate the difference 662 - 254 to the nearest hundred.

662 ⇒ 700

254 ⇒ 300

⇒ 400

400

Actual

662

- 254

408

⇒ Estimated value differs from the actual by 8

Estimating Products

Q. Estimat the product of 32 and 62

$32 \rightarrow 30$

$62 \rightarrow 60$

$30 \times 60 = 1800$

$3 \times 10 \times 6 \times 10 = 1800$

Q. Estimate the product of 24 and 65

$24 \Rightarrow 20$

$65 \Rightarrow 70$

$20 \times 70 = 1400$

Q Estimate the product of 386 x 218 by rounding of each number to the nearest hundred.

Sol.

386 → 400

218 → 200

400 X 200 = 80000

Estimated upward

Estimated downward

eg: 153 estimated downwards 100

183 estimated upwards 200

183 estimated downwards 100

119 E.U. → 200

$$
\begin{array}{r}
3\ 2\ 8\ 2\ 9 \\
1\ 6\ 4\ 6\ 6 \\
+\ 2\ 7\ 3\ 7\ 3 \\
\hline
7\ 6\ 6\ 6\ 8 \\
\hline
\end{array}
$$

Estimate the sum nearest thousand.
Also find the actual sum.

8

~~Estimate~~ Find the estimated sum

1.

77000

Estimate the difference.

$$\begin{array}{r} 8906 \\ -\ 2455 \\ \hline 7000 \end{array}$$

→ Estimate the difference to the nearest hundred

$$\begin{array}{r} \rightarrow\ 8\,5\,0\,1\,3 \\ -\ 4\,1\,3\,1\,7 \\ \hline \end{array}$$

$$\begin{array}{r} 90{,}000 \\ 40{,}000 \\ \hline 50{,}000 \end{array}$$

$$\begin{array}{r} 85100 \\ -\ 41400 \\ \hline 43700 \end{array}$$

34921

- 18179

~~17~~

16742 → 16700

to the nearest hundred

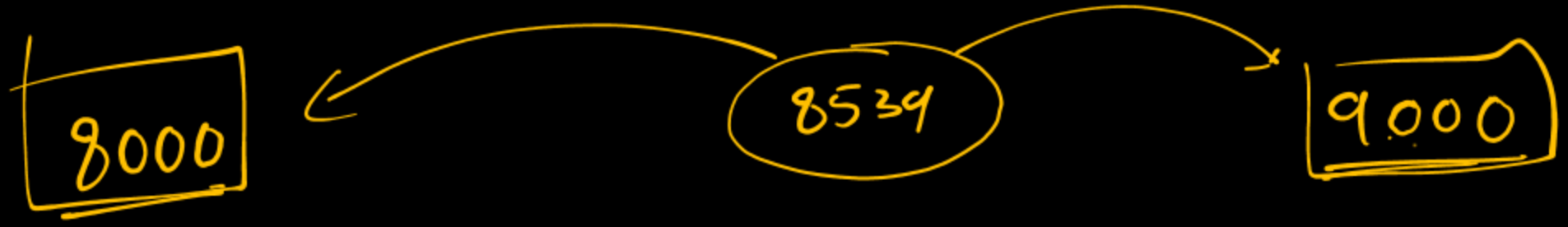
46005

- 39466

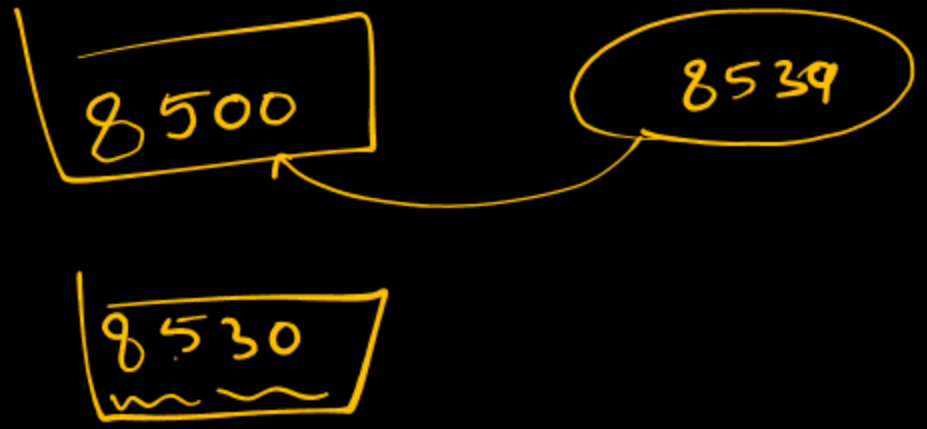
8539

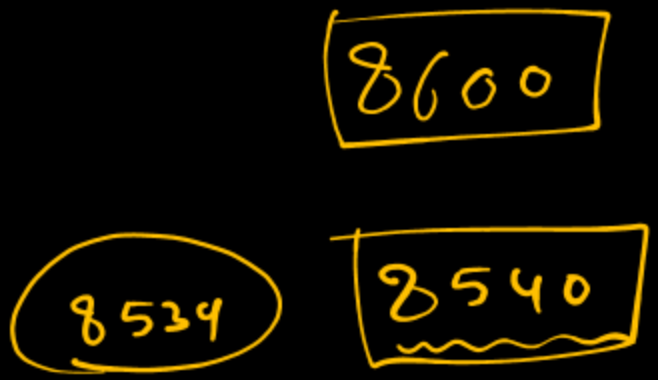
Find the difference & round it off to the nearest thousand.

8539 → 9000



Nearest hundred





Round it off to nearest to ten.

30607

30600

30607

30610

Nearest 100

30600

30607

30700

Nearest 1000

30,000

30607

31000

26816 → 26800

nearest 100

26816 nearest 1000 → 27000

30000

nearest ten thousand

[20963 } nearest 1000 → 21000

nearest 100 → 21000]

26019 } nearest 100 → 26000

nearest 1000 → 26000

Q. The product of two numbers is 9156. If one of the numbers is 84, find the other.

$84 \times \overset{109}{\boxed{?}} = 9156$

$$84 \times 9 = 756$$

$$\begin{array}{r} 109 \\ 84 \overline{)\,9156} \\ -84\downarrow\downarrow \\ \hline 756 \\ -756 \\ \hline 0 \end{array}$$

$$
\begin{array}{r}
245 \\
48\overline{)11760} \\
96 \\
\hline
\end{array}
$$

$$
\begin{array}{r}
48 \\
3 \\
\hline
\end{array}
$$

$$
\begin{array}{r}
2 \\
35\overline{)9240} \\
-70\downarrow \\
\hline
224
\end{array}
$$

H.W

$$
\begin{array}{r}
35 \\
\times\ 5 \\
\hline
175 \\
\hline
\end{array}
$$

Nearest hundred

348 → 300

1616 → 1600

2490 → 2500

17284 → 17300

Nearest thousand

[0777 → 1000

0000 777 1000

2400 → 2000

(900 → 2000) X

0900 → 1000

1234321 → 1234000 ✓

2043 → 2000

End of the chapter