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Q.A. Estimate the following sums to the nearest tens, and compare the sums with the actual sums:

(2)  $65 + 32$  : Solution:

Rounding off to nearest tens, we have:

$$65 \rightarrow 70 \text{ [As } 5 = 5 \Rightarrow 5 \rightarrow 10 \text{]}$$

$$32 \rightarrow 30 \text{ [As } 2 < 5 \Rightarrow 2 \rightarrow 0 \text{]}$$

$$\text{Thus, } 65 + 32 \rightarrow 70 + 30 = 100$$

$$\therefore \text{Estimated sum} = \underline{100} \text{ Ans (i)}$$

$$\text{Actual sum} = 65 + 32 = 97$$

$$\therefore 100 > 97 \text{ (}\therefore \text{ In this case)}$$

$$\Rightarrow \boxed{\text{Estimated sum} > \text{Actual sum}} \text{ Ans (ii)}$$

(4)  $36 + 63$  : Solution:

Rounding off to nearest tens, we have:

$$36 \rightarrow 40 \text{ [As } 6 > 5 \Rightarrow 6 \rightarrow 10 \text{]}$$

$$63 \rightarrow 60 \text{ [As } 3 < 5 \Rightarrow 3 \rightarrow 0 \text{]}$$

$$\text{Thus, } 36 + 63 \rightarrow 40 + 60 = 100$$

$$\therefore \text{Estimated sum} = \underline{100} \text{ Ans (i)}$$

$$\text{Actual sum} = 36 + 63 = 99$$

$$\therefore 100 > 99 \text{ (}\therefore \text{ In this case)}$$

$$\Rightarrow \text{Estimated sum} > \text{Actual sum.} \text{ Ans (ii)}$$

Q.B. Estimate the following sums to the nearest hundreds, and compare the sums with the actual sums:

(1)  $273 + 68$  : Solution:

Rounding off to nearest hundreds, we have,

$$273 \rightarrow 300 \text{ [As } 7 > 5 \Rightarrow 73 \rightarrow 100 \text{]}$$

$$68 \rightarrow 100 \text{ [As } 6 > 5 \Rightarrow 68 \rightarrow 100 \text{]}$$

$$\text{Thus, } 273 + 68 \rightarrow 300 + 100 = 400$$

$$\therefore \text{Estimated sum} = \underline{400} \text{ Ans (i)}$$

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$$\text{Actual sum} = 273 + 68 = 341$$

$$\therefore 400 > 341 \text{ (}\therefore \text{ In this case)}$$

$\Rightarrow$  Estimated sum  $>$  Actual sum. Ans(ii)

Q.B (3) 287 + 437 : Solution:

Rounding off to nearest hundreds, we have:

$$287 \rightarrow 300 \text{ [As } 8 > 5 \Rightarrow 87 \rightarrow 100]$$

$$\text{and } 437 \rightarrow 400 \text{ [As } 3 < 5 \Rightarrow 37 \rightarrow 00]$$

$$\text{Thus, } 287 + 437 \rightarrow 300 + 400 = 700$$

$$\therefore \text{ Estimated sum} = \underline{700} \text{ Ans(ii)}$$

$$\text{Actual sum} = 287 + 437 = 724$$

$$\therefore 700 < 724 \text{ (}\therefore \text{ In this case)}$$

$\Rightarrow$  Estimated sum  $<$  Actual sum. Ans(iii)

Q.C. Estimate the following sums to the nearest thousands:

(1) 3,256 + 1,802 : Solution:

Rounding off to nearest thousands, we have:

$$3,256 \rightarrow 3,000 \text{ [As } 2 < 5 \Rightarrow 256 \rightarrow 000]$$

$$\text{and } 1,802 \rightarrow 2,000 \text{ [As } 8 > 5 \Rightarrow 802 \rightarrow 1000]$$

$$\text{Thus, } 3,256 + 1,802 \rightarrow 3,000 + 2,000 = 5,000$$

$$\therefore \text{ Estimated sum} = \underline{5000} \text{ Ans}$$

(3) 3,256 + 7,285 : Solution:

Rounding off to nearest thousands, we have:

$$3,256 \rightarrow 3,000 \text{ [As } 2 < 5 \Rightarrow 256 \rightarrow 000]$$

$$\text{and } 7,285 \rightarrow 7,000 \text{ [As } 2 < 5 \Rightarrow 285 \rightarrow 000]$$

$$\text{Thus, } 3,256 + 7,285 \rightarrow 3,000 + 7,000 = 10,000$$

$$\therefore \text{ Estimated sum} = \underline{10,000} \text{ Ans}$$

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Q.D. Make an estimate of the following:

(a) to the nearest tens;

(b) to the nearest hundreds;

and compare the results with the actual difference.

① 2,312 - 513: Solution: Step-I

(a) Rounding off to nearest tens, we have:

$$2,312 \rightarrow 2,310 \text{ [As } 2 < 5 \Rightarrow 2 \rightarrow 0 \Rightarrow 12 \rightarrow 10]$$

$$\text{and } 513 \rightarrow 510 \text{ [As } 3 < 5 \Rightarrow 3 \rightarrow 0 \Rightarrow 13 \rightarrow 10]$$

$$\text{Thus, } 2,312 - 513 \rightarrow 2,310 - 510 = 1,800$$

$$\therefore \text{Estimated difference} = \underline{1,800} \text{ Ans (i)}$$

$$\text{Actual difference} = 2,312 - 513 = 1,799$$

$$\because 1800 > 1799 \text{ (}\therefore \text{ In this case)}$$

$$\Rightarrow \text{Estimated difference} > \text{Actual difference.}$$

Ans (ii)

(b) Step-II

Rounding off to nearest hundreds, we have:

$$2,312 \rightarrow 2,300 \text{ [As } 1 < 5 \Rightarrow 12 \rightarrow 00 \Rightarrow 312 \rightarrow 300]$$

$$\text{and } 513 \rightarrow 500 \text{ [As } 1 < 5 \Rightarrow 13 \rightarrow 00]$$

$$\text{Thus, } 2,312 - 513 \rightarrow 2300 - 500 = 1800$$

$$\therefore \text{Estimated difference} = \underline{1800} \text{ Ans (i)}$$

$$\text{Actual difference} = 2,312 - 513 = 1,799$$

$$\because 1800 > 1799 \text{ (}\therefore \text{ In this case)}$$

$$\Rightarrow \text{Estimated difference} > \text{Actual difference.}$$

Ans (ii)

3. 1,875 - 381: Solution: Step-I

(a) Rounding off to nearest tens, we have:

$$1,875 \rightarrow 1,880 \text{ [As } 5 = 5 \Rightarrow 5 \rightarrow 10 \Rightarrow 75 \rightarrow 80]$$

$$\text{and } 381 \rightarrow 380 \text{ [As } 1 < 5 \Rightarrow 1 \rightarrow 0 \Rightarrow 81 \rightarrow 80]$$

$$\text{Thus, } 1,875 - 381 \rightarrow 1,880 - 380 = 1,500$$

$$\therefore \text{Estimated difference} = \underline{1,500} \text{ Ans (i)}$$

Actual difference =  $1,875 - 381 = 1,494$

$\therefore 1,500 > 1,494$  ( $\therefore$  In this case)

$\Rightarrow$  Estimated difference  $>$  Actual difference

Ans (ii)

(b) Step - II

Rounding off to nearest hundreds, we have:

$1,875 \rightarrow 1,900$  [As  $7 > 5 \Rightarrow 75 \rightarrow 100 \Rightarrow 875 \rightarrow 900$ ]

and  $381 \rightarrow 400$  [As  $8 > 5 \Rightarrow 81 \rightarrow 100$ ]

Thus,  $1,875 - 381 \rightarrow 1,900 - 400 = 1,500$

$\therefore$  Estimated difference = 1,500 Ans (i)

Actual difference =  $1,875 - 381 = 1,494$

$\therefore 1,500 > 1,494$  ( $\therefore$  In this case)

$\Rightarrow$  Estimated difference  $>$  Actual difference.

Ans (ii)

Q.E. Estimate each of the following products by rounding off each number to the nearest tens:

1.  $38 \times 63$  : Solution:

Rounding off to nearest tens, we have:

$38 \rightarrow 40$  [As  $8 > 5 \Rightarrow 8 \rightarrow 10$ ]

and  $63 \rightarrow 60$  [As  $3 < 5 \Rightarrow 3 \rightarrow 0$ ]

Thus,  $38 \times 63 \rightarrow 40 \times 60 = 2,400$

$\therefore$  Estimated product = 2,400 Ans

3.  $41 \times 62$  : Solution:

Rounding off to nearest tens, we have:

$41 \rightarrow 40$  [As  $1 < 5 \Rightarrow 1 \rightarrow 0$ ]

and  $62 \rightarrow 60$  [As  $2 < 5 \Rightarrow 2 \rightarrow 0$ ]

Thus,  $41 \times 62 \rightarrow 40 \times 60 = 2,400$

$\therefore$  Estimated product = 2,400 Ans

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