Question: B. Answer the following questions. 1. Determine the ISBN check ...

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B. Answer the following questions.

1. Determine the ISBN check digit for the book *Davao History* by Corcino, Ernesto (1998). The first 12 digits of the ISBN are **978971920070**_.

2. A purchase order for the book *The Mathematics for the Modern World* by Dale Hathaway with the ISBN **9780201611298**. Verify if the ISBN is valid.

3. The book entitled *Basic Mathematics* authored by Eugenio Guhao and Nida Abangolan (2015) has an ISBN **978971821561**_. Determine the ISBN check digit.

4. Verify if the ISBN for the book entitled *Mathematics of Investment* by Winston Sirug (2014) is valid. ISBN **9789719905805**.

5. Determine the ISBN check digit for the book *College Algebra* by Exconde et al (2013). The first 12 digits of the ISBN are **978971016725**_.

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Expert Answer

Anonymous answered this
1,022 answers

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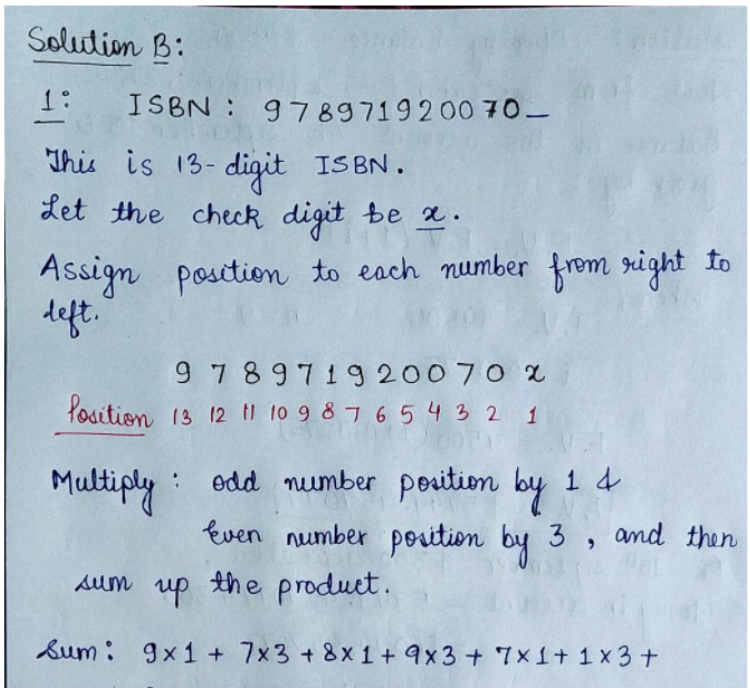


Solution B:

1: ISBN : 9789719200 70_

This is 13-digit ISBN.

Let the check digit be x.

Assign position to each number from right to left.

9 7 8 9 7 1 9 2 0 0 7 0 x

Position 13 12 11 10 9 8 7 6 5 4 3 2 1

Multiply : odd number position by 1 &
even number position by 3, and then sum up the product.

Sum: 9x1 + 7x3 + 8x1 + 9x3 + 7x1 + 1x3 +

$9\times1 + 2\times3 + 0\times1 + 0\times3 + 7\times1 + 0\times3 + x\times1$

$= 9+21+8+27+7+3+9+6+0+0+7+0+x$

Sum = $97+x$

For a valid ISBN, sum must be divisible by 10

Hence $\boxed{x=3}$ is the check digit

2. 9 7 8 0 2 0 1 6 1 1 2 9 8

Position: 13 12 11 10 9 8 7 6 5 4 3 2 1

Sum: $9\times1+7\times3+8\times1+0\times3+2\times1+0\times3+1\times1+6\times3+1\times1+1\times3+2\times1+9\times3+8\times1$

Sum = $9+21+8+0+2+0+1+18+1+3+2+27+8$

$= 100.$

Since, the sum is divisible by 10, the remainder is zero.

Hence, ISBN is valid.

3. Let the check digit be x.

9 7 8 9 7 1 8 2 1 5 6 1 x

Position: 13 12 11 10 9 8 7 6 5 4 3 2 1

Sum = $9\times1+7\times3+8\times1+9\times3+7\times1+1\times3+8\times1+2\times3+1\times1+5\times3+6\times1+1\times3+x\times1$

Sum = $9+21+8+27+7+3+8+6+1+15+6+3+x$

$= 114+x$

Since, the sum must divisible by 10.

Hence $\boxed{x=6}$ is check digit $[114+6=120\div10]$

4)

9 7 8 9 7 1 9 9 0 5 8 0 5

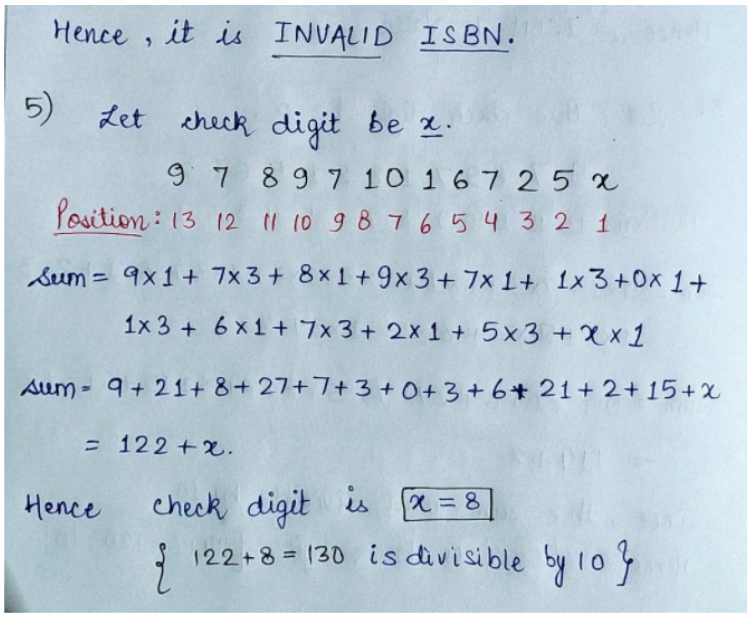
Position: 13 12 11 10 9 8 7 6 5 4 3 2 1

Sum = $9\times1+7\times3+8\times1+9\times3+7\times1+1\times3+9\times1+9\times3+0\times1+5\times3+8\times1+0\times3+5\times1$

Sum = $9+21+8+27+7+3+9+27+15+8+5$

$= 139$

Since after dividing 139 by 10, we get remainder = 9.



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