Squares and Square Roots Ex 3.3 Q6

Answer :

(i) Decomposing: $395 = 400 - 5$

Here, $a = 400$ and $b = 5$

Using the identity $(a - b)^2 = a^2 - 2ab + b^2$:

$395^2 = (400 - 5)^2 = 400^2 - 2(400)(5) + 5^2 = 160000 - 4000 + 25 = 156025$

(ii) Decomposing: $995 = 1000 - 5$

Here, $a = 1000$ and $b = 5$

Using the identity $(a - b)^2 = a^2 - 2ab + b^2$:

$995^2 = (1000 - 5)^2 = 1000^2 - 2(1000)(5) + 5^2 = 1000000 - 10000 + 25 = 990025$

(iii) Decomposing: $495 = 500 - 5$

Here, $a = 500$ and $b = 5$

Using the identity $(a - b)^2 = a^2 - 2ab + b^2$:

$495^2 = (500 - 5)^2 = 500^2 - 2(500)(5) + 5^2 = 250000 - 5000 + 25 = 245025$

(iv) Decomposing: $498 = 500 - 2$

Here, $a = 500$ and $b = 2$

Using the identity $(a - b)^2 = a^2 - 2ab + b^2$:

$498^2 = (500 - 2)^2 = 500^2 - 2(500)(2) + 2^2 = 250000 - 2000 + 4 = 248004$

(v) Decomposing: $99 = 100 - 1$

Here, $a = 100$ and $b = 1$

Using the identity $(a - b)^2 = a^2 - 2ab + b^2$:

$99^2 = (100 - 1)^2 = 100^2 - 2(100)(1) + 1^2 = 10000 - 200 + 1 = 9801$

(vi) Decomposing: $999 = 1000 - 1$

Here, $a = 1000$ and $b = 1$

Using the identity $(a - b)^2 = a^2 - 2ab + b^2$:

$999^2 = (1000 - 1)^2 = 1000^2 - 2(1000)(1) + 1^2 = 1000000 - 2000 + 1 = 998001$

(vii) Decomposing: $599 = 600 - 1$

Here, $a = 600$ and $b = 1$

Using the identity $(a - b)^2 = a^2 - 2ab + b^2$:

$599^2 = (600 - 1)^2 = 600^2 - 2(600)(1) + 1^2 = 360000 - 1200 + 1 = 358801$

********** END **********