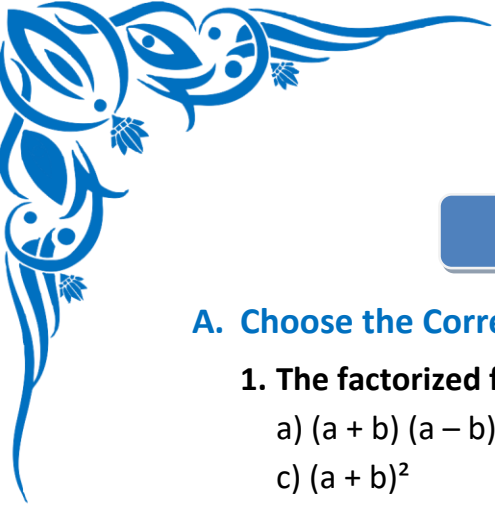




Factorisation using identities

A. Choose the Correct Answer:

1. The factorized form of $a^2 + 2ab + b^2$ is:

- | | |
|---------------------|---------------------|
| a) $(a + b)(a - b)$ | b) $(a - b)(a - b)$ |
| c) $(a + b)^2$ | d) $(a - b)^2$ |

2. The expression $a^2 - b^2$ can be factorized as:

- | | |
|---------------------|---------------------|
| a) $(a - b)^2$ | b) $(a + b)^2$ |
| c) $(a + b)(a - b)$ | d) $(a - b)(a - b)$ |

3. $(x + y)^2$ is equal to:

- | | |
|----------------------|----------------------|
| a) $x^2 + y^2$ | b) $x^2 + 2xy + y^2$ |
| c) $x^2 - 2xy + y^2$ | d) $x^2 + xy + y^2$ |

4. The expansion of $(x - y)^2$ gives:

- | | |
|----------------------|----------------------|
| a) $x^2 - 2xy + y^2$ | b) $x^2 + 2xy + y^2$ |
| c) $x^2 - y^2$ | d) $x^2 + xy + y^2$ |

5. Which identity is used to factorize $p^2 - q^2$?

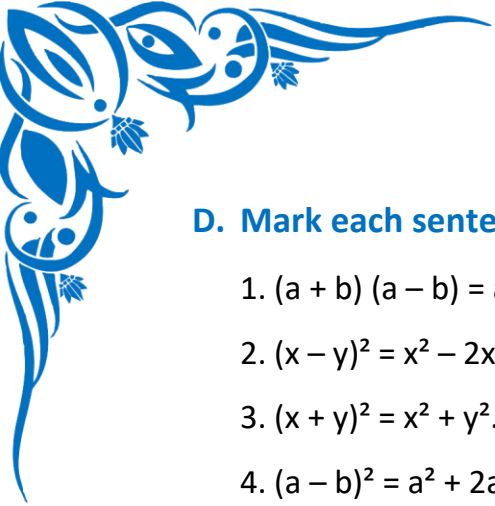
- | | |
|---------------------|---------------------|
| a) $(p + q)^2$ | b) $(p - q)^2$ |
| c) $(p + q)(p - q)$ | d) $(p - q)(p - q)$ |

B. Write the Missing Terms to Complete the Sentences:

- A. $(a + b)^2 = a^2 + \underline{\hspace{2cm}} + b^2$
- B. $(a - b)^2 = a^2 - \underline{\hspace{2cm}} + b^2$
- C. $(a + b)(a - b) = \underline{\hspace{2cm}}$
- D. Identity used for $x^2 - 9$ is $\underline{\hspace{2cm}}$
- E. $(m + n)^2 = m^2 + \underline{\hspace{2cm}} + n^2$

C. Figure out the answers to these questions:

- Factorize $x^2 + 2xy + y^2$ using identity.
- Factorize $9a^2 - 16b^2$ using identity.
- Factorize $(2x + 3y)^2$.
- Factorize $4p^2 - 25q^2$ using identity.
- Expand and then factorize $(x - 4)^2$.



D. Mark each sentence with a True (✓) or False (X):

1. $(a + b)(a - b) = a^2 - b^2$.

2. $(x - y)^2 = x^2 - 2xy + y^2$.

3. $(x + y)^2 = x^2 + y^2$.

4. $(a - b)^2 = a^2 + 2ab + b^2$.

5. Factorizing $16p^2 - 9q^2$ gives $(4p + 3q)(4p - 3q)$.

E. Challenge yourself with these questions:

1. Factorize $49x^2 - 64y^2$ using identity.

2. Factorize $(2p - 5q)^2$.

3. Factorize $25m^2 - 36n^2$ using identity.

4. Expand and factorize $(x + 7y)^2$.

5. Factorize $81a^2 - 100b^2$.