DIFFERENCE OF TWO SQUARES

Answer all of these questions. Remember to show your working out in all questions.

MAIN QUESTIONS

1.

$x^2 - 9$

> $(x - 3)(x + 3)$

2.

$16y^2 - 25$

> $(4y - 5)(4y + 5)$

3.

$49 - 4a^2$

> $(7 - 2a)(7 + 2a)$

4.

$81p^2 - 64q^2$

> $(9p - 8q)(9p + 8q)$

5.

$121m^4 - 100n^4$

> $(11m^2 - 10n^2)(11m^2 + 10n^2)$

6.

$x^4 - 16y^4$

> $(x^2 - 4y^2)(x^2 + 4y^2)$

7.

$9x^2 - (y + 2)^2$

> $(3x - y - 2)(3x + y + 2)$

8.

$(2a + b)^2 - (a - 3b)^2$

> $(3a - 2b)(a + 4b)$

9.

$x^6 - 64y^6$

> $(x^3 - 8y^3)(x^3 + 8y^3)$

10.

$256 - (3x - 4)^4$

> $(16 - (3x - 4)^2)(16 + (3x - 4)^2)$

MASTER QUESTIONS

M1.

A square garden has an area of 144m². A smaller square patio of area 64m² is removed from one corner. What is the area of the remaining garden?

> 80m

M2.

The product of two consecutive odd numbers is 143. Find the numbers.

> 11 and 13

M3.

A rectangular field is 10m longer than it is wide. If the area is 375m^2, find its dimensions.

> 25m by 15m

M4.

The difference between the squares of two numbers is 72. If their sum is 18, find the numbers.

> 11 and 7

M5.

A right-angled triangle has hypotenuse (x + 3)cm and one leg (x - 3)cm. If the area is 54cm^2, find the length of the other leg.

> 12cm