

Exercise 7B

Q1

Answer:

We have:

$$x^2 - 36 = (x)^2 - (6)^2$$

= $(x+6)(x-6)$

$$x^2 - 36 = (x+6)(x-6)$$

Q2

Answer:

We have:

$$4a^{2}-9=(2a)^{2}-(3)^{2}$$
$$=(2a+3)(2a-3)$$

$$4a^2 - 9 = (2a + 3)(2a - 3)$$

Q3

Answer:

$$81 - 49x^{2} = (9)^{2} - (7x)^{2}$$
$$= (9 + 7x)(9 - 7x)$$

$$31 - 49x^2 = (9 + 7x)(9 - 7x)$$

Answer:

We have:

$$4x^2 - 9y^2 = (2x)^2 - (3y)^2$$

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

$$4x^2 - 9y^2 = (2x + 3y)(2x - 3y)$$

Q5

Answer:

We have:

$$16a^{2} - 225b^{2} = (4a)^{2} - (15b)^{2}$$
$$= (4a + 15b)(4a - 15b)$$

$$16a^2 - 225b^2 = (4a + 15b)(4a - 15b)$$

Q6

Answer:

$$9a^{2}b^{2} - 25 = (3ab)^{2} - (5)^{2}$$
$$= (3ab + 5)(3ab - 5)$$

$$0.9a^2b^2 - 25 = (3ab + 5)(3ab - 5)$$

Answer:

We have:

$$16a^{2} - 144 = (4a)^{2} - (12)^{2}$$

$$= (4a + 12)(4a - 12)$$

$$= 4(a + 3) 4(a - 3) = 16(a + 3)(a - 3)$$

$$16a^2 - 144 = 16(a+3)(a-3)$$

Q8

Answer:

We have:

$$63a^{2} - 112b^{2} = 7(9a^{2} - 16b^{2})$$
$$= 7\{(3a)^{2} - (4b)^{2}\}$$
$$= 7(3a + 4b)(3a - 4b)$$

$$63a^2 - 112b^2 = 7(3a + 4b)(3a - 4b)$$

Q9

Answer:

$$20a^{2} - 45b^{2} = 5(4a^{2} - 9b^{2})$$

$$= 5\{(2a)^{2} - (3b)^{2}\}$$

$$= 5(2a + 3b)(2a - 3b)$$

$$20a^2 - 45b^2 = 5(2a + 3b)(2a - 3b)$$

Q10

Answer:

We have:

$$12x^{2} - 27 = 3(4x^{2} - 9)$$

$$= 3\{(2x)^{2} - (3)^{2}\}$$

$$= 3(2x + 3)(2x - 3)$$

$$12x^2 - 27 = 3(2x+3)(2x-3)$$

Q11

Answer:

We have:

$$x^3 - 64x = x(x^2 - 64)$$

= $x\{(x)^2 - (8)^2\}$
= $x(x+8)(x-8)$

$$x^3 - 64x = x(x+8)(x-8)$$

Q12

Answer:

$$egin{aligned} 16x^5 - 144x^3 &= 16x^3 ig(x^2 - 9ig) \ &= 16x^3 ig\{ (x)^2 - (3)^2 ig\} \ &= 16x^3 (x+3)(x-3) \end{aligned}$$

$$16x^5 - 144x^3 = 16x^3(x+3)(x-3)$$

Q13

Answer:

We have:

$$3x^5 - 48x^3 = 3x^3(x^2 - 16)$$

= $3x^3\{(x)^2 - (4)^2\}$
= $3x^3(x+4)(x-4)$

$$3x^5 - 48x^3 = 3x^3(x+4)(x-4)$$

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Answer:

We have:

$$egin{aligned} 16p^3 - 4p &= 4pig(4p^2 - 1ig) \ &= 4pig\{(2p)^2 - (1)^2ig\} \ &= 4p(2p+1)(2p-1) \end{aligned}$$

$$16p^3 - 4p = 4p(2p+1)(2p-1)$$

Q15

Answer:

We have:

$$63a^{2}b^{2} - 7 = 7(9a^{2}b^{2} - 1)$$

$$= 7\{(3ab)^{2} - (1)^{2}\}$$

$$= 7(3ab + 1)(3ab - 1)$$

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