Factorizations Ex 7.5 Q6

Answer :

$$144a^2 - 169b^2$$
$$= (12a)^2 - (13b)^2$$
$$= (12a - 13b)(12a + 13b)$$

Factorizations Ex 7.5 Q7

Answer :

$$(2a - b)^2 - 16c^2$$
$$= (2a - b)^2 - (4c)^2$$
$$= [(2a - b) - 4c][(2a - b) + 4c]$$
$$= (2a - b - 4c)(2a - b + 4c)$$

Factorizations Ex 7.5 Q8

Answer :

$$\begin{aligned}(x+2y)^2 - 4(2x-y)^2 &= (x+2y)^2 - [2(2x-y)]^2 \\ &= [(x+2y) - 2(2x-y)][(x+2y) + 2(2x-y)] \\ &= (x+2y-4x+2y)(x+2y+4x-2y) \\ &= 5x(4y-3x)\end{aligned}$$

Factorizations Ex 7.5 Q9

Answer :

$$3a^5 - 48a^3$$
$$= 3a^3\left(a^2 - 16\right)$$
$$= 3a^3\left(a^2 - 4^2\right)$$
$$= 3a^3\left(a - 4\right)\left(a + 4\right)$$

Factorizations Ex 7.5 Q10

Answer :

$$a^4 - 16b^4 = a^4 - 2^4b^4 = \left(a^2\right)^2 - \left(2^2b^2\right)^2$$
$$= \left(a^2 - 2^2b^2\right)\left(a^2 + 2^2b^2\right)$$
$$= \left[a^2 - \left(2b\right)^2\right]\left(a^2 + 4b^2\right)$$
$$= \left(a - 2b\right)\left(a + 2b\right)\left(a^2 + 4b^2\right)$$

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