Multiplying a univariate polynomial by a monomial with a positive coefficient

QUESTION

Use the distributive property to remove the parentheses.

$$9b^4(8b^2-10)$$

Simplify your answer as much as possible.

EXPLANATION

We use the distributive property and then simplify, as follows.

$$9b^4(8b^2-10) = 9b^4\cdot 8b^2 - 9b^4\cdot 10$$ Distributing $9b^4$ across the parentheses

$$= (9\cdot 8)b^4\cdot b^2 - (9\cdot 10)b^4$$ Grouping similar factors

$$= (9\cdot 8)b^6 - (9\cdot 10)b^4$$ Using the product rule for exponents

$$= 72b^6 - 90b^4$$

ANSWER

The answer is $72b^6 - 90b^4$.

More about this answer