SM2 HW 5.3 Factoring with a Leading Coefficient

Factor each trinomial completely. Don't forget to check for a common factor first. If the polynomial is prime, say so.

1. $5n^2 + 22n + 8$

$ac = $ _____ $b = $ _____

Factors of ac:

Which factors add to b?

Factor the expression.

2. $4n^2 - 9$

$ac = $ _____ $b = $ _____

Factors of ac:

Which factors add to b?

Factor the expression.

3. $3h^2 - h - 14$

$ac = $ _____ $b = $ _____

Factors of ac:

Which factors add to b?

Factor the expression.

4. $6n^2 + 7n - 3$

$ac = $ _____ $b = $ _____

Factors of ac:

Which factors add to b?

Factor the expression.

5. $5x^2 + 16x - 6$

$ac = $ _____ $b = $ _____

Factors of ac:

Which factors add to b?

Factor the expression.

6. $4x^2 + 16x + 7$

$ac = $ _____ $b = $ _____

Factors of ac:

Which factors add to b?

Factor the expression.

7. $3v^2 - 16v + 21$

8. $9k^3 + 15k^2 - 36k$

9. $7n^2 - 4n - 3$

10. $25t^2 - 1$

11. $-18p^2 + 33p - 9$

12. $9q^2 + 40q + 16$

13. $2v^2 - 9v + 10$

14. $3z^2 - 12z - 8$

15. $9k^2 + 22k + 8$

16. In your own words, explain how to factor a trinomial of the form $ax^2 + bx + c.$