

Exercise 9.4

Find the following products by using appropriate identities:

1. $(x + 5)(x^2 - 5x + 25)$
2. $(2x + 3)(4x^2 - 6x + 9)$
3. $x(4x + 5y)(16x^2 - 20xy + 25y^2)$
4. $(3x + 4y)(9x^2 - 12xy + 16y^2)$
5. $(4xy - 1)(16x^2y^2 + 4xy + 1)$
6. $(x^2 + y^2)(x^4 - x^2y^2 + y^4)$
7. $(2x^2 - 1)(4x^4 + 2x^2 + 1)$
8. $(x - 1)(x^2 + x + 1)(x^6 + x^3 + 1)$

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Answers

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|-------------------|----------------|----------------------|--------------------|
| 1. $x^3 + 125$ | 2. $8x^3 + 27$ | 3. $64x^4 + 125xy^3$ | 4. $27x^3 + 64y^3$ |
| 5. $64x^3y^3 - 1$ | 6. $x^6 + y^6$ | 7. $8x^6 - 1$ | 8. $x^9 - 1$ |