

Chapter Test**Form A****Chapter 9**

Write each polynomial in standard form. Then name each expression based on its degree and number of terms.

- $2x^3 - x^2 + 4x$
- $y^2 + 3y + 6 - 4y^2 - 6y$
- $8 - 6w - 12w - 8w^2 - 7 - 3w^3$
- $6x^5 + 3x^3 - 7x^5 - 4x^3$
- $(x^2 - 3x + 5) + (x^2 + 2x - 3)$
- $(2x^2 + 6x + 7) + (3x^2 + 3x - 5)$
- $(3x^2 + 4x - 10) - (2x + 7 - 4x^2)$
- $(8x - 4x^2 + x^3) - (8x^2 + 4x^3 - 7x)$
- Open-Ended** Write a trinomial with degree 5.

Simplify each product. Write in standard form.

- $8x(3x + 4 - x^2)$
- $7x(3 - x + 6x^2)$
- $6x(x^2 + 2x + 1)$
- $(a + 3)(a - 1)$
- $(3x + 4)(5x - 9)$
- $(2x^2 - 6x - 5)(3 - x)$
- $-y(8y^2 + y)$
- $5y(y^5 + 8y^3)$
- $(y + 4)(y + 3)$
- $(2y - 8)(y - 4)$
- $(x - 1)(x^2 + 6x + 4)$
- $(8x - 7)(3x + 2)$

Write the GCF of each polynomial.

- $12x^3 + 6x^2 - 3x$
- $6y^2 - 12y^3 + 36y^4$
- $18x^2 + 16x - 12x^3$

- Writing** A student commented, "Factoring undoes the distributive property." What do you think the student meant? Explain and give an example.

Write an expression for each situation as a product and in standard form.

- A settling pond at a sewage treatment facility is rectangular. The length of the pond is 15 ft more than 4 times its width w . What is the area of the pond?

Chapter Test (continued)

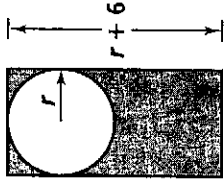
Form A

Chapter 9

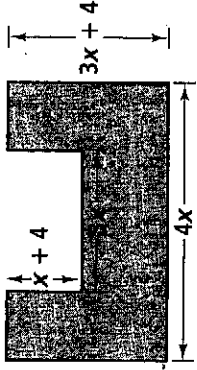
28. ~~Write an expression for the area of each shaded region.~~
~~Write your answer in simplest form.~~

Geometry Write an expression for the area of each shaded region.
 Write your answer in simplest form.

29. $2r$



30.



Factor each expression. Look for GCF first

- 31. $x^2 - 6x + 5$
- 32. $y^2 + 18y + 81$
- 33. $16x^2 + 48x + 36$
- 34. $y^2 - 144$
- 35. $y^2 - 10y + 25$
- 36. $9x^2 - 64$
- 37. $64x^2 + 40x + 6$
- 38. $14x^2 - 56$

Write the volume of the figure.

- 39. ~~_____~~
- 40. ~~_____~~
- 41. ~~_____~~
- 42. ~~_____~~

Factor completely.

- 45. $15y^3 + 12y^2 + 5y + 4$
- 46. $6x^2 - 2x - 20$
- 47. $x^4 - 6x^3 + 6x - 36$
- 48. $12x^3 - 18x^2 - 8x + 12$

51. Open-Ended Writing $(x + y)^2$ as $x^2 + y^2$ illustrates a common error. Explain.