

Chapter 6
Form D

Choose the correct answer to each problem.

1. Classify as a monomial, binomial or trinomial: $3x^2 - 4x$.
a. monomial b. binomial c. trinomial d. none of these
2. Determine the degree of the polynomial: $14x^2y^7 - 6x^5y^3$.
a. 14 b. 9 c. 8 d. 15

For problems 3 – 5, add or subtract as indicated.

3. $(-2x^3 + 5x^2 - 6x) + (-2x^2 + 3x - 5)$
a. $-2x^3 + 3x^2 - 3x - 5$ b. $-4x^5 + 8x^3 - 11x$
c. $-2x^3 + 7x^2 - 3x - 5$ d. $4x^5 + 15x^3 + 30x$
4. $(15x^3y^2 - 8x^2y + 7xy^2) - (3x^3y^2 + 3x^2y - 4xy^2)$
a. $12x^3y^2$ b. $12x^3y^2 - 11x^2y + 11xy^2$
c. $45x^6y^4 - 24x^4y^2 - 28x^2y^4$ d. $12x^3y^2 - 5x^2y + 3xy^2$
5. Subtract $12x^3 - 5x^2 - 6x + 3$ from $20x^3 + 7x^2 + 3x - 5$.
a. $-8x^3 - 12x^2 - 9x + 8$ b. $32x^3 + 2x^2 - 3x - 2$
c. $-8x^3 + 2x^2 - 2x - 8$ d. $8x^3 + 12x^2 + 9x - 8$
6. Evaluate $-x^2y^2 + 3xy - y^2$ for $x = -1, y = -4$.
a. 28 b. 12 c. 42 d. -20

For problems 7 – 13, simplify each expression.

7. $2x^5 \cdot 2^3x^{12}$
a. $64x^{60}$ b. $16x^{60}$ c. $16x^{17}$ d. $4x^{20}$

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8. $(-4x^4y^5)^2$
a. $64x^8y^{10}$ b. $16x^8y^{10}$ c. $64x^{16}y^{25}$ d. $-64x^{16}y^{25}$
9. $2^0 - 3^{-1}$
a. $\frac{1}{3}$ b. $\frac{1}{5}$ c. $\frac{4}{3}$ d. $\frac{2}{3}$
10. $(2ab^3)^3(ab)^4$
a. $8a^7b^{13}$ b. $8a^7b^7$ c. $2a^7b^{13}$ d. $2a^4b^{13}$
11. $\frac{(7a^{-4}b^{-2})^3}{49a^{-15}b^3}$
a. $\frac{3}{7a^{27}b^3}$ b. $\frac{7}{a^3b^3}$ c. $\frac{1}{7b^3}$ d. $\frac{7a^3}{b^9}$
12. $\left(\frac{12x^{-3}y^5}{x^{-4}}\right)^{-1}$
a. $\frac{1}{12xy^5}$ b. $\frac{-12x^7}{y^5}$ c. $\frac{12}{x^7y^5}$ d. $\frac{x}{12y^5}$
13. $\frac{(3y^5)^2(4y^{-3})^{-2}}{18y^{-5}}$
a. $\frac{2y^2}{3}$ b. $\frac{y^{21}}{32}$ c. $\frac{2y^{55}}{3}$ d. $\frac{-8y^{16}}{3}$
14. $-4x^2y^3(15x^2y^3 - 9x^2y^2 + 8xy)$
a. $-60x^2y^3 + 36x^2y^5 - 32x^2y^3$ b. $-60x^4y^6 - 36x^4y^5 + 32x^3y^4$
c. $-60x^4y^9 + 36x^4y^6 - 32x^2y^3$ d. $-60x^4y^6 + 36x^4y^5 - 32x^3y^4$
15. $(7x - 4)(3x + 2)$
a. $21x^2 - 8$ b. $21x^2 + 2x - 8$
c. $21x^2 - 2x - 8$ d. $21x^2 - 26x - 8$

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16. $(8t + 9)(8t - 9)$

a. $64t^2 - 81$

c. $16t - 18$

b. $64t^2 + 81$

d. $64t^2 - 144t + 81$

17. $(z^2 - 5)^2$

a. $z^2 - 25$

b. $z^4 - 10z^2 + 25$

c. $z^4 - 25$

d. $z^4 + 10z^2 - 25$

18. $(2x - 3)(x^2 + 4x - 6)$

a. $2x^3 + 11x^2 + 18$

c. $2x^3 + 5x^2 - 24x + 18$

b. $2x^3 + 5x^2 - 24x - 18$

d. $2x^3 + 11x^2 - 24x + 18$

For problems 19 – 20, divide.

19.
$$\frac{30x^3y^2 - 20x^2y^2 + 15xy}{-5xy}$$

a. $-6x^2y + 4xy - 3$

c. $30x^3y^2 - 20x^2y - 3$

b. $-5x$

d. $6x^2y + 4xy + 3$

20.
$$\frac{6x^3 + 3x^2 - 5x - 6}{2x - 1}$$

a. $3x^2 - 2 + \frac{1}{2x - 1}$

c. $3x^2 + 3x - 1 - \frac{5}{2x - 1}$

b. $3x^2 + 3x - 1 - \frac{7}{2x - 1}$

d. $3x^2 + 3x - 4 - \frac{10}{2x - 1}$

21. Write 6.29×10^{-3} in decimal notation.

a. 62900

b. 0.00629

c. 629000

d. 0.0000629

22. Write 270,600,000 in scientific notation.

a. 2.706×10^8

b. 2.76×10^9

c. 2.706×10^{-8}

d. 2.76×10^{-9}

23. Simplify $(4.9 \times 10^{-3})(5.2 \times 10^{-8})$.

a. 25.48×10^{24}

b. 25.48×10^{-11}

c. 2.548×10^{-10}

d. 2.548×10^{30}

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24. Simplify $\frac{28.6 \times 10^{-12}}{14.3 \times 10^{-4}}$.

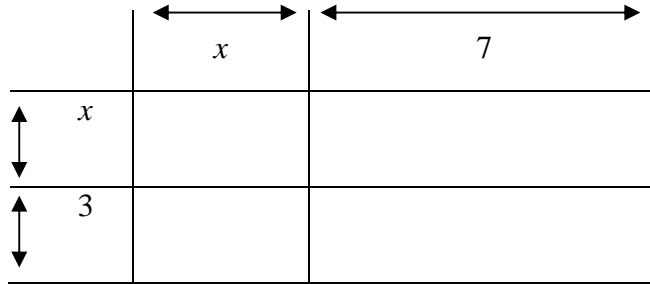
a. 2×10^{-16}

b. 2×10^3

c. 2×10^{-3}

d. 2×10^{-8}

25. Write a polynomial in descending powers of
- x
- that represents the area of the figure below.



a. $21x^2$

b. $x^2 + 21$

c. $x^2 + 10x + 21$

d. $2x + 10$