Name _____ Date _____

Chapter 7 Quiz

For use after Section 7.4

Write the polynomial in standard form. Identify the degree and leading coefficient of the polynomial. Then classify the polynomial by the number of terms.

1. $-6r^4$
2. $4 + g^2 - 2g$
3. $\frac{1}{4}n^3 - \frac{3}{8}n^5$
4. $-1.6a + 2a^4 + 8.1a^3$

Find the sum or difference.

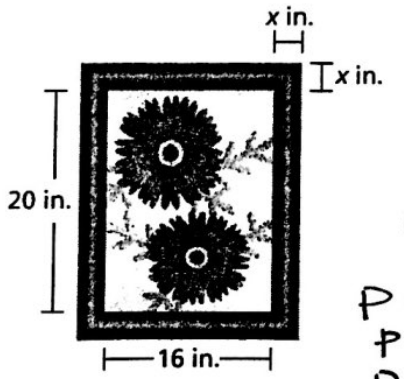
5. $(3x^2 + 7) + (-x^2 + 2)$
6. $(-4n^2 + 2n) - (n^2 - 5)$
   $-4n^2 + 2n - n^2 + 5$
7. $(-2h^2 + 2h) - (2h^2 - 5h + 12)$
8. $(m^2 - 2mn + n^2) + (-2m^2 + mn)$
   $1m^2 \boxed{-2mn} + n^2 - 2m^2 \boxed{+1mn}$

Find the product.

9. $(x + 5)(x + 4)$
10. $(4 - 2d)(3d - 7)$ $12d - 28 - 6d^2 + 14d$
    $26d - 28 - 6d^2$
11. $(y + 6)(y^2 + 3y - 4)$
12. $(5z - 3)(5z + 3)$
    $25z^2 \boxed{+15z - 15z} - 9$

Solve the equation.

13. $3x^2 - 12x = 0$
14. $(6 - y)(6 - y) = 0$ $6 - y = 0$
    $+y \quad +y$
    $6 = y$
15. $(4p + 3)(2p - 5)(p + 2) = 0$
16. $-5y(y - 9)(3y + 2) = 0$
    $\frac{-5y}{-5} = \frac{0}{-5}$ $y = 0$ $y - 9 = 0$, $y = 9$ $3y + 2 = 0$, $-2 \quad -2$, $\frac{3y}{3} = \frac{-2}{3}$
17. You are framing a picture with a frame of equal width on each side.
    a. Write a polynomial that represents the perimeter of the picture including the frame. $P = 2l + 2w$ $P = 2(20 + 2x) + 2(16 + 2x)$
       $P = 40 + 4x + 32 + 4x = 72 + 8x$
    b. Write a polynomial that represents the area of the picture including the frame. $A = lw$ $A = (20 + 2x)(16 + 2x)$
       $320 + 40x + 32x + 4x^2$
    c. Find the perimeter and the area of the picture including the frame when the width of the frame is 2 inches.



$l = 20 + x + x = 20 + 2x$

$w = 16 + x + x = 16 + 2x$

$P = 72 + 8x$ $A = 4x^2 + 72x + 320$

$P = 72 + 8(2)$ $A = 4(2)^2 + 72(2) + 320$

$P = 72 + 16$ $A = 4(4) + 144 + 320$

$P = 88$ $A = 16 + 144 + 320$

$A = 160 + 320$

$A = 480$

Answers

1. _____
2. SF: $g^2 - 2g + 4$
   D: 2 LC: 1
   TRINOMIAL
3. _____
4. SF: $2a^4 + 8.1a^3 - 1.6$
   D: 4 LC: 2
   TRINOMIAL
5. _____
6. $-5n^2 + 2n + 5$
7. _____
8. $-1m^2 - 1mn + n^2$
9. _____
10. $-6d^2 + 26d - 28$
11. _____
12. $25z^2 - 9$
13. _____
14. $y = 6$ (mult of
15. _____
16. $y = 0, y = 9, y = -\frac{2}{3}$
17. a. $P = 72 + 8x$
    b. $A = 4x^2 + 72x + 32$
    c. $P = 88$ $A = 480$

Chapter 7

Write the polynomial in standard form. Identify the degree and leading coefficient of the polynomial. Then classify the polynomial by the number of terms.

1. $3x + 5x^2 - 7x + 5$

2. $-5b^3$ (MONOMIAL)

3. $20z^4 - z^7 + \frac{2}{3}z$

4. $-\frac{3}{7}a^2 + \frac{4}{5}a^5$ (BINOMIAL)

Find the sum or difference.

5. $-5(4b^3 - 5b) - (3b^4 - b^3)$

6. $(-3x + 4x^2) + (-12x^3 + 7x)$
$-3x + 4x^2 - 12x^3 + 7x$
$4x + 4x^2 - 12x^3$

7. $(2 - 3x) + (14x - 7x^2 - 5)$

8. $(5 - 6y - 4y^2) - (-2y^2 + 5y + 12y^3)$
$5 - 6y \boxed{-4y^2} \boxed{+2y^2} - 5y - 12y^3$
$5 - 11y - 2y^2 - 12y^3$

Find the product.

9. $(5 - a)(a^2 - 3a - 10)$

10. $(1 - 5c)(2c + 6)$ $2c + 6 - 10c^2 - 30c$
$-28c + 6 - 10c^2$

11. $2x(3x + 1)(x^2 + 4x)$

12. $5(p - 3)^2$
$5(p-3)(p-3)$ $5(p^2 - 3p - 3p + 9)$
$5(p^2 - 6p + 9)$

13. A rectangular picture is 6 centimeters longer than it is wide. A frame 1 centimeter wide is placed around the picture.

   a. Write a polynomial that represents the perimeter of the frame.

   b. Write a polynomial that represents the area of the frame.

   c. Find the perimeter of the frame if the picture is 15 centimeters wide?

Answers

1. _____

2. SF: $-5b^3$
D: 3 LC: -5

3. _____

4. $\frac{4}{5}a^5 - \frac{3}{7}a^2$
D: 5 LC: $\frac{4}{5}$

5. _____

6. $-12x^3 + 4x^2 + 4x$

7. _____

8. $-12y^3 - 2y^2 - 11y + 5$

9. _____

10. $-10c^2 - 28c + 6$

11. _____

12. $5p^2 - 30p + 45$

13. a. _____

b. _____

c. _____