Name _____ Class _____ Date _____

Mid-Chapter 2 Review /50 Form G

Lessons 2-1 through 2-4

Do you know HOW?

Find the degree of each monomial.

1. $8x^3$
2. 57
3. $6p^3q^2$
4. $81x^6y^3$

Simplify.

5. $(7t^2 + 9) + (6t^2 + 8)$
6. $5x^3y^2 - 7x^3y^2$
7. $(3m^2 + 2m - 8) + (4m^2 - 5m + 6)$

Simplify each product.

8. $3n(4n^2 + 5n)$
9. $4k^2(3 - 4k)$
10. $-7y^3(4y^2 + y - 3)$
11. $(x + 7)(x + 5)$
12. $(j + 3)(j - 4)$
13. $(3x - 1)(x - 6)$
14. $(d + 4)(d + 4)$
15. $(3a + 7)(3a - 7)$
16. $(2z - 3)^2$
17. A rectangle has length $x + 9$ and width $2x - 1$. What is the area of the rectangle?
18. A square has side length $(5x - 3)$ cm. What is the area of the square?

Do you UNDERSTAND?

19. Open-Ended: Write a trinomial with 3x as the GCF of its terms
20. Name each polynomial by degree and number of terms:
    a. $7x^3$
    b. x^2-7x+1
    c. $3x-5$

Name _____ Class _____ Date _____

Chapter 2

Form G

Do you know HOW?

Find the degree of each monomial.

1. $6xy$
2. $-3b^2c^4$
3. $12m^7n$

Simplify each sum or difference.

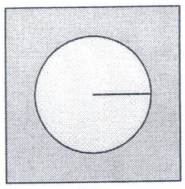
4. $6r^3 + 7r^3$
5. $23u^2v - 19u^2v$
6. $(5g - 2g) + (2g^2 + 6g)$
7. The perimeter of a pentagon is $20t + 7$. Four sides have the following lengths: $6t$, $2t$, $4t - 5$, and $5t + 1$. What is the length of the fifth side?

Simplify each product.

8. $3x(x + 6)$
9. $-z^2(z - 9)$
10. $2x(4x^2 - 7x + 6)$

Factor each polynomial.

11. $12x - 9$
12. $24n^3 - 40n^2 + 72n$
13. $14b^2c^3 + 21bc^5$
14. An artist is making a square stained glass window in which a green glass circle is surrounded by blue glass. The side length of the window is shown, and the area of the green piece is $64\pi x^2$. What is the area of the blue glass? Write your answer in factored form.



Simplify each product using the stated method.

15. $(x - 2)(3x - 4)$; table
16. $(3x + 2)(x + 7)$; Distributive Property
17. $(4x - 1)(2x + 5)$; FOIL Method
18. What is the surface area of a cylinder with radius $x + 3$ and height $x + 11$?

Simplify each product.

19. $(x + 6)^2$
20. $(2s + 7)^2$
21. $(3x - 8)^2$

Complete.

22. $x^2 + 9x + 18 = (x + 3)(x + \square)$
23. $x^2 - 11x + 28 = (x - \square)(x - \square)$

Simplify each product.

24. $(v + 7)(v - 7)$
25. $(5s - t)^2$
26. $(3p^2 + 10q)(3p^2 - 10q)$

Complex Numbers Review

Simplify each expression:

1. $(8 + 2i) + (3 - 4i)$

2. $(2 + 5i) + (6 - i)$

3. $(-1 + 2i)(3 + 10i)$

4. $(3 + 2i) - (4 - i)$

5. $(2 + 3i)(3 - 2i)$

6. $(3 - 5i) - (-1 + 7i)$

7. $\frac{4+3i}{9i}$

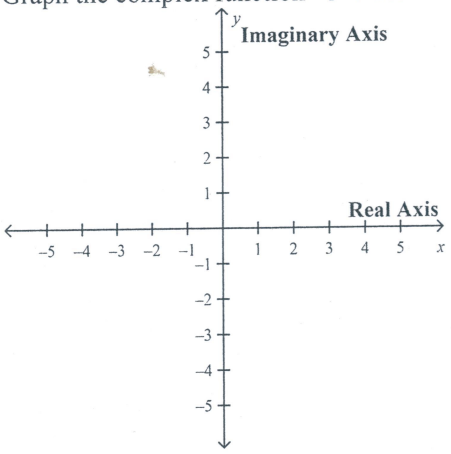
8. $3\sqrt{-25} + 4$

9. $\sqrt{-24}$

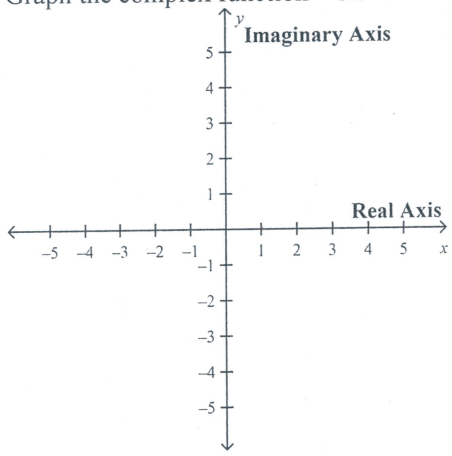
10. $\frac{2-9i}{9+5i}$

Mid-Ch. 2 Reivew (pg. 4)

1. Graph the complex function $-3 + 5i$.



2. Graph the complex function $-3i$.



What is the absolute value of each complex number?

3. $1 - 5i$.

4. $2 + 3i$.

5. $4i$