Student: _____ Date: _____	**Instructor:** Ray Brown **Course:** M050 Sum17 CAI 10052 G43	**Assignment:** ch12rev HW

1. Click the link below to watch a video reviewing concepts in this chapter. You are encouraged to watch the video and work problems with the instructor to help ensure your understanding of the material.

   Chapter 12 Review[1]

   ○   True - I understand the concept.
   ○   False - I am not understanding the concept and intend to seek assistance.

   1: http://www.screencast.com/t/hdgCN7IxsCg7

2. The expressions -4^2 and $(-4)^2$ each simplify to what value?

   Choose the correct answer below.

   ○   **A.** -8 and 8
   ○   **B.** -16 and 16
   ○   **C.** -16 and -16
   ○   **D.** 16 and 16
   ○   **E.** -8 and -8

3. The expression $3^2 \cdot 3^3$ simplifies to what exponential expression?

   Choose the correct answer below.

   ○   **A.** 9^6
   ○   **B.** 3^5
   ○   **C.** 9^5
   ○   **D.** 3^6

4. Evaluate.

   6^3

   $6^3 =$ _____
   (Simplify your answer.)

5. Evaluate.

   $(-6)^3$

   $(-6)^3 =$ _____

6. Evaluate the expression.

   -5^3

   $-5^3 =$ _____

7. Evaluate.

    $(-2)^0$

    $(-2)^0 = $ _____

8. Simplify the expression. Assume that all variables represent nonzero numbers.

    $8d^3 \cdot 6d^8$

    $8d^3 \cdot 6d^8 = $ _____

9. Simplify the expression. Assume that all variables represent nonzero numbers.

    $\left(a^6 b\right)^6 \left(a^4 b^6\right)^2$

    $\left(a^6 b\right)^6 \left(a^4 b^6\right)^2 = $ _____

10. Simplify.

    $\left(\dfrac{2}{7z}\right)^2$

    $\left(\dfrac{2}{7z}\right)^2 = $ _____

    (Simplify your answer. Use positive exponents only. Use integers or fractions for any numbers in the expression.)

11. Give the coefficient and degree of the following term.

    $4x^6$

    The coefficient of the term is _____ .

    The degree is _____ .

12. Determine whether the expression is a polynomial. If it is, state how many terms and variables the polynomial contains. Then state its degree.

$6x^2 + x + 7$

The expression is (1) _____

Select the correct choice below and fill in any answer boxes in your choice.

○ **A.** The polynomial has _____ term(s) and _____ variable(s).

○ **B.** The expression is not a polynomial.

Select the correct choice below and fill in any answer boxes in your choice.

○ **A.** Its degree is _____ .

○ **B.** The expression is not a polynomial.

(1) ○ a polynomial.
    ○ not a polynomial.

13. Add the polynomials.

$$\left(5a^3b + 6ab^3\right) + \left(ab^3 - 5a^3b\right)$$

The sum of the polynomials is _____ . (Simplify your answer.)

14. Subtract.

$(2x + 1) - (-3x + 8)$

$(2x + 1) - (-3x + 8) =$ _____
(Simplify your answer.)

15. Subtract the polynomials.

$(7v^5 + 4v^2 - 2) - (9v^5 - 2v^2 + 18)$

$(7v^5 + 4v^2 - 2) - (9v^5 - 2v^2 + 18) =$ _____
(Simplify your answer.)

16. Multiply and simplify the expression.

$-y(3 + 2y)$

$-y(3 + 2y) =$ _____

17. Multiply and simplify the expression.

$(10y + 9)(y - 2)$

$(10y + 9)(y - 2) =$ _____

18. Multiply vertically.

$(x + 8)(3x^2 + 7x + 5)$

$(x + 8)(3x^2 + 7x + 5) =$ _____ (Simplify your answer.)

19. Multiply.

$(7m + 6n)(7m - 6n)$

$(7m + 6n)(7m - 6n) =$ _____

20. Simplifying $(a - b)^2$ results in what expression (polynomial)?

Choose the correct answer below.

○ **A.** $a^2 - b^2$
○ **B.** $a^2 - 2ab + b^2$
○ **C.** $a^2 + 2ab + b^2$
○ **D.** $a^2 + b^2$

21. Multiply.

$(ab + 9)(ab - 9)$

The product is _____.

22. Multiply.

$(6b + 4)^2$

$(6b + 4)^2 =$ _____

23. Simplify the expressions.

a) $\dfrac{-9^5}{9}$ b) $\dfrac{1}{9^{-2}}$

a) $\dfrac{-9^5}{9} =$ _____ (Type an integer or a simplified fraction.)

b) $\dfrac{1}{9^{-2}} =$ _____ (Type an integer or a simplified fraction.)

24. Simplify the expression.

$d^{-6} \cdot d^{-3} \cdot d$

$d^{-6} \cdot d^{-3} \cdot d =$ _____
(Simplify your answer. Use positive exponents only.)

25. Simplify.

$(3b)^{-3}$

$(3b)^{-3} =$ _____ (Use positive exponents only.)

*26. Simplify the following expression. Write the result using positive exponents only. Assume that all bases are not equal to 0.

$$\left(x^3 y^4\right)^{-2}$$

$\left(x^3 y^4\right)^{-2} =$ _____

27. Write the expression in standard notation.

$$7 \times 10^{-3}$$

$7 \times 10^{-3} =$ _____

28. Write the expression in standard form.

$$1.8 \times 10^5$$

$1.8 \times 10^5 =$ _____

29. Write the number in scientific notation.

760

760 = _____

(Use scientific notation. Use the multiplication symbol in the math palette as needed.)

30. The expression 3^{-2} simplifies to what value?

Choose the correct answer below.

- A. $\dfrac{1}{9}$
- B. -6
- C. $-\dfrac{1}{9}$
- D. -9

31. Write the following number in scientific notation.

0.00762

0.00762 = _____
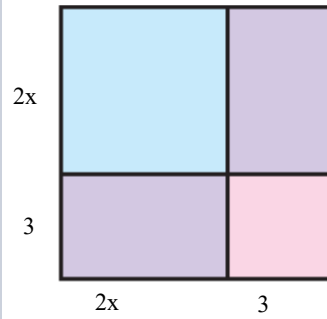
(Use the multiplication symbol in the math palette as needed.)

32. Divide.

$$\frac{20r^7 - 20r^5 + 32r^3}{4r^3}$$

The solution is _____ .

(Simplify your answer.)

33. Do each part and verify that your answers are the same.
    (a) Find the area of the large square by multiplying its length and width.
    (b) Find the sum of the areas of the smaller rectangles inside the large square.

(a) The area of the large square is _____ .

(b) The sum of the areas of the smaller rectangles inside the large square is

_____ .

34.
   Simplifying $\dfrac{8x^3 + 12x}{4x}$ results in what expression?

Choose the correct answer below.

- **A.** $2x^2 + 12x$
- **B.** $2x^2 + 3$
- **C.** $2x + 3$
- **D.** $2x + 3$

1. True - I understand the concept.

2. B. -16 and 16

3. B. 3^5

4. 216

5. -216

6. -125

7. 1

8. $48d^{11}$

9. $a^{44}b^{18}$

10. $\dfrac{4}{49z^2}$

11. 4

   6

12. (1) a polynomial.

   A. The polynomial has _____**3**_____ term(s) and _____**1**_____ variable(s).

   A. Its degree is _____**2**_____ .

13. $7ab^3$

14. $5x - 7$

15. $-2v^5 + 6v^2 - 20$

16. $-3y - 2y^2$

17. $10y^2 - 11y - 18$

18. $3x^3 + 31x^2 + 61x + 40$

19. $49m^2 - 36n^2$

20. B. $a^2 - 2ab + b^2$

21. $a^2b^2 - 81$

22. $36b^2 + 48b + 16$

23. -6561

  81

24. $\dfrac{1}{d^8}$

25. $\dfrac{1}{27b^3}$

26. $\dfrac{1}{x^6y^8}$

27. 0.007

28. 180,000

29. 7.6×10^2

30. A. $\dfrac{1}{9}$

31. 7.62×10^{-3}

32. $5r^4 - 5r^2 + 8$

33. $4x^2 + 12x + 9$

$4x^2 + 12x + 9$

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34. B. $2x^2 + 3$