Name: _____ **Block:** ____ **Date:** _____

MATH 9 - CHAPTERS 5 & 7 - PRETEST

parent/guardian signature

Multiple Choice - PART 1 - NON-CALCULATOR - 10 MINUTES
***Circle** the choice that best completes the statement or answers the question.*

1. What is the degree of the term $3p^2$?

   a. 1 b. 2 c. 3 d. 5

2. What is the degree of the polynomial $5g^2 + 2gh - h^2 + 7$?

   a. 1 b. 2 c. 4 d. 7

3. The opposite expression for $2x^2 - 4x + 3$ is

   a. $-2x^2 + 4x - 3$ b. $2x^2 + 4x + 3$ c. $-2x^2 - 4x - 3$ d. $2x^2 - 4x + 3$

4. Simplify $(3a^2 + 2ab - 4) + (2a^2 - 5ab - 6)$. The answer is

   a. $5a^2 + 7ab + 10$
   b. $5a^2 + 3ab + 10$
   c. $5a^2 - 3ab + 10$
   d. $5a^2 - 3ab - 10$

5. Subtract the following polynomials. $(7j^2 - 2j) - (-4j + 5)$

   a. $7j^2 + 4j - 5$
   b. $7j^2 + 2j - 5$
   c. $7j^2 - 2j - 5$
   d. $7j^2 + 6j + 5$

6. Which multiplication statement is represented by the area model below?

   a. $(3x)(4x + 2) = 12x^2 + 6x$
   b. $(3x)(4x - 2) = 12x^2 - 6x$
   c. $(3x)(4x + 2) = 7x + 2$
   d. $(3x)(4x - 2) = 7x - 2$

Multiple Choice - PART 2 - CALCULATOR may be used after 10 minutes

7. In the term $4s^2t^2$, the number 4 is best described as being the
   a. coefficient b. exponent c. polynomial d. variable

8. The term $4z^3$ represents the
   a. difference between 4 and z^3 b. product of 4 and z^3 c. quotient of 4 and z^3 d. sum of 4 and z^3

9. The expression $3s^2 - 4s + 2$ can be described as a(n)
   a. binomial b. equation c. polynomial d. term

10. In the expression $2y^3 + 4y - 5$, the 2 is a(n)
    a. coefficient b. exponent c. term d. variable

11. In the expression $3d^4 + 5d^2 - 15$, the d is a(n)
    a. coefficient b. exponent c. term d. variable

The school band has decided to sell coupon books to raise money. The cost of the coupon book is the square of the profit, p, from the sale of the book. The sale price of the book is 4 times the profit, p, from the sale of a coupon book. Use this information to answer the following questions #12-15.

12. The term or polynomial that best shows the cost of a coupon book would be
    a. p^2 b. $4p$ c. $p^2 - 4p$ d. $4p - p^2$

13. The term or polynomial that best shows the sale price of a coupon book would be
    a. p^2 c. $p^2 - 4p$
    b. $4p$ d. $4p - p^2$

14. The term or polynomial that best shows the profit from selling a coupon book would be
    a. p^2 c. $p^2 - 4p$
    b. $4p$ d. $4p - p^2$

15. The expression that best shows the profit if the band bought 500 coupon books but only sold 450 coupon books would be
    a. $500p^2$ c. $500p^2 - 450p$
    b. $500(4p)$ d. $450(4p) - 500p^2$

16. Add the following polynomials. $(3k^4 - 2k^3 + k) + (3k^3 - k^2 + 3k) + (6 + 3k^2 - 2k^4)$
    a. $k^4 + k^3 + 2k^2 + 4k + 6$
    b. $3k^4 + 3k^3 + 3k^2 + 3k + 6$
    c. $-2k^4 - 2k^3 - 2k^2 + k + 6$
    d. $k^4 - k^3 - 2k^2 + 4k - 6$

17. Simplify by combining like terms. $(6w^2 - 4w + 2) + (2w^2 + 6w + 3) - (4w^2 + w - 6) - (3w - 3w^2 + 7)$
    a. $7w^2 - 2w + 4$
    b. $w^2 + 6w + 18$
    c. $w^2 + 6w + 4$
    d. $9w^2 - 2w + 2$

18. Which expression represents $\left(\frac{2}{3}\right)^2 (3x)$ in simplified form?
    a. $\frac{4}{3}x$
    b. $2x$
    c. $4x$
    d. $\frac{27}{2}x$

19. The distance, in metres, travelled by a train, t seconds after the brakes are applied, is given by the expression $2t(20 - t)$. What is the expanded form of this expression?
    a. $-t^2 + 2t + 20$
    b. $40t - 2t^2$
    c. $-40t + t^2$
    d. $t^2 - 2t - 20$

Matching

Match the correct term to each of the following descriptions. A term may be used more than once or not at all.

a. binomial
b. monomial
c. opposite expressions
d. polynomial
e. trinomial

____ 20. two expressions that add to zero

____ 21. the specific name for an expression with one term

____ 22. the specific name for an expression with three terms

____ 23. an algebraic expression made up of terms connected by operations of addition and/or subtraction

Identify the letter of the term that is equivalent to the expression below. Each term may be used more than once or not at all.

a. $-4x$
b. $-4x-8$
c. $-6.2x^2$
d. $4x^2$
e. $5x^2-4x$
f. $8x^2+12x$

____ 24. $(3.1x)(-2x)$

____ 25. $\dfrac{-8x^2}{2x}$

____ 26. $(4x)(2x+3)$

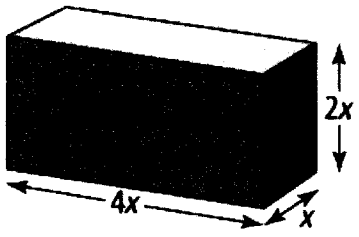
____ 27. $\dfrac{15x^2-12x}{3}$

____ 28. $\dfrac{(x+2)(-4x)}{x}$

PROBLEMS - SHOW YOUR WORK

29. What is the volume of the rectangular prism below?

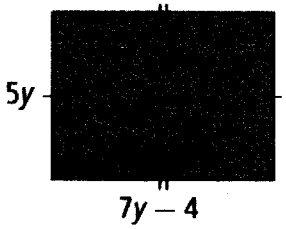
WORK



ANSWER

30. Write a simplified expression for the perimeter of this figure. What is the perimeter of the figure?

WORK



ANSWER

31. Tony wants to sell some of his old CDs and computer games so he can buy a new game machine. The new machine will cost $300. He plans to spend $25 advertising the 21 CDs and 16 computer games he has to sell.
a) Write an expression to show how much money Tony will receive from selling his CDs and games.

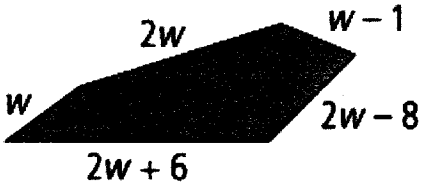
b) If Tony sells his CDs for $6 each and his games for $9 each, will he have enough to buy the new machine?

32. A rectangle's length is 15 cm greater than its width, w.
a) Draw the rectangle and label its dimensions.

b) Write and simplify an expression for its perimeter.

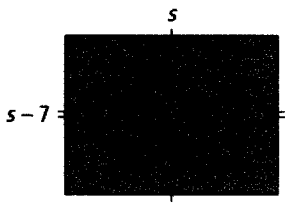
33. Write a simplified expression to describe the perimeter of the figure shown below.

WORK



ANSWER

34. **a)** Write a simplified expression representing the perimeter of the figure.

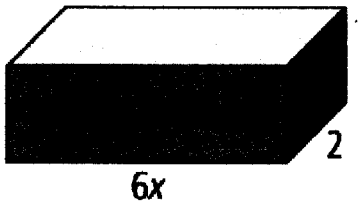


b) If s = 12 m, what is the perimeter of the figure?

35. The dimensions of a package for an MP3 player are 5 cm, y cm, and $3y$ cm.
a) What is the expanded form of the expression for the volume of the package?

b) If $y = 3$, what is the volume of the package?

36. A rectangular prism has a volume of $48x^2 + 12x$ cubic units. If the length is $6x$ units and the width is 2 units, what is the height of the rectangular prism?



WORK

ANSWER