TEST NAME: **APR.1 NEW**
TEST ID: **1562612**
GRADE: **09 - Ninth Grade**
SUBJECT: **Mathematics**
TEST CATEGORY: **School Assessment**

Student: _____

Class: _____

Date: _____

1. **What is the difference of $(7x^2 + 3x - 5)$ and $(2x^2 - 2x - 6)$?**

   A. $-5x^2 - 5x - 1$
   B. $5x^2 + 5x + 1$
   C. $5x^2 + x - 11$
   D. $9x^2 + x - 11$

2. **What is $(2x - 7) - (x - 9)$?**

   A. $x - 16$
   B. $x + 2$
   C. $3x - 16$
   D. $3x + 2$

3. **What is the simplest form of this expression?**

   $(-2y^2 + 8) + (3y^2 - 1)$

   A. $-6y^4 + 26y^2 - 8$
   B. $y^2 + 7$
   C. $y^4 + 7$
   D. $8y^2$

4. **Which polynomial expresses the difference of the two polynomials below?**

   $(-4k^6 + 8k^2 - 8) - (2k^6 - 11k^2 + 5)$

   A. $-6k^6 + 19k^2 - 13$
   B. $-6k^6 + 19k^2 - 3$
   C. $-6k^6 - 3k^2 - 13$
   D. $-6k^6 - 3k^2 - 3$

5. **Which binomial must be added to $(-3t + 6)$ so that the sum of the polynomials is $(10t - 1)$?**

   A. $7t + 5$
   B. $13t + 5$
   C. $7t - 7$
   D. $13t - 7$

6. **What is** $(5y + 6) - (10y + 3)$?

   A. $-5y + 3$
   B. $-5y + 9$
   C. $5y + 3$
   D. $5y + 9$

7. **Which polynomial is equivalent to** $b^2(3b^4 - 6b + 9)$?

   A. $3b^8 - 6b^2 + 9b^2$
   B. $3b^8 - 6b^2 + 9$
   C. $3b^6 - 6b^3 + 9$
   D. $3b^6 - 6b^3 + 9b^2$

8. **What binomial must be subtracted from** $(8r - 4)$ **so that the difference of the 2 polynomials is** $(5r + 15)$?

   A. $13r + 11$
   B. $13r - 19$
   C. $3r + 11$
   D. $3r - 19$

9. **Which expression is equivalent to** $(3y + 3) + (y^2 - 1) + 2y + (y^2 + 2)$?

   A. $7y + 4$
   B. $7y + 6$
   C. $2y^2 + 5y + 4$
   D. $3y^2 + 3y + 4$

10. **Which polynomial expresses the product** $-3x(6x^2 + 4x - 6)$?

    A. $-18x^3 + 4x - 6$
    B. $-18x^3 - 12x^2 - 6$
    C. $-18x^3 + 12x^2 + 18x$
    D. $-18x^3 - 12x^2 + 18x$

11. **Which statement is true?**

    A. $5x - (x + 8) = 4x - 8$
    B. $5x - (x + 8) = 4x + 8$
    C. $5x - (x + 8) = 5x - 8$
    D. $5x - (x + 8) = 5x + 8$

12. **What is the sum of** $(4r + 3) + (4r + 2)$?

A. $16r^2 + 20r + 6$
B. $13r$
C. $8r^2 + 5$
D. $8r + 5$

13. All the rectangular public-information signs in a shopping center are built such that, for some integer x, they are $(x + 4)$ feet high and $(x^2 - 4x + 7)$ feet wide. In order for painters to paint a sign, they must first calculate the area. Which expression represents the area, in square feet, of each sign?

A. $x^3 + 8x^2 + 23x + 28$

B. $x^3 - 9x + 28$

C. $x^3 - 4x^2 + 7x$

D. $x^3 - 16x$

14. **What is the sum of** $(2d - 3) + (4d + 1)$?

A. $4d$
B. $6d - 2$
C. $6d^2 - 2$
D. $8d^2 - 10d - 3$

15. **What is the simplest form of $(6x - 7)(4x + 5)$?**

A. $24x^2 - 58x - 35$
B. $24x^2 - 2x - 35$
C. $24x^2 + 2x - 35$
D. $24x^2 + 58x - 35$

16. Which expression is equivalent to $(2x^2 + 6x - 1) - (3x^2 - x + 3)$?

A. $^{-}x^2 + 7x - 4$

B. $^{-}x^2 + 7x + 2$

C. $^{-}x^2 + 5x - 4$

D. $^{-}x^2 + 5x + 2$

17. $\left(3x^2 - 4x + 7\right) - \left(-2x^2 + x + 5\right) =$

A. $x^2 - 5x + 2$
B. $x^2 - 3x + 12$
C. $5x^2 - 5x + 2$
D. $5x^2 - 3x + 12$

18. **The perimeter of a triangle is $17x - 5$ units. One side is $3x + 5$ units and another is $8x - 3$ units. How many units long is the third side?**

A. $6x - 7$
B. $6x - 13$
C. $12x - 7$
D. $22x - 23$

19. **Which polynomial expresses the difference of the two polynomials below?**

$$\left(7k^4 + 7k^2 - 10\right) - \left(4k^4 - 11k^2 + 2\right)$$

A. $3k^4 - 4k^2 - 8$
B. $3k^4 - 4k^2 - 12$
C. $3k^4 + 18k^2 - 8$
D. $3k^4 + 18k^2 - 12$

20. **Which polynomial is equivalent to $(4n - 1)^2$?**

A. $16n^2 + 1$
B. $16n^2 - 4n + 1$
C. $16n^2 - 8n + 1$
D. $8n - 2$

21. **What is the product of (k – 13) and (k + 6)?**

A. $k^2 - 19k - 78$
B. $k^2 - 7k - 78$
C. $k^2 + 7k - 78$
D. $k^2 + 19k - 78$

22. **Which expression is the product of $\left(x + 3\right)\left(3x^2 - 3x + 4\right)$?**

A. $3x^3 - 3x^2 + 4x + 12$
B. $3x^3 + 6x^2 - 5x + 12$
C. $3x^3 + 9x^2 - 8x + 12$
D. $3x^3 + 12x^2 - 13x + 12$

23. **What is the simplest form of this expression?**

$\left(-6y^2+3\right)+\left(2y^2-1\right)$

A. $-4y^2+2$
B. $-12y^4+12y^2-3$
C. $-2y^2$
D. $-4y^2+2$

24. **Which binomial must be subtracted from (8*t* − 3) so that the difference of the 2 polynomials is (4*t* + 9)?**

A. $12t-12$
B. $12t+6$
C. $4t-12$
D. $4t+6$

25. **Which is equivalent to** $\left(3x+y^2\right)^2$?

A. $9x^2+6xy^2+y^4$
B. $9x^2+3xy^2+y^4$
C. $9x^2+y^4$
D. $6x+2y^2$

26. Which expression is equivalent to the product of $3x - 5$ and $2x + 7$?

A. $6x^2 - 35$
B. $6x^2 + 11x - 35$
C. $6x^2 - 11x - 35$
D. $6x^2 + 31x - 35$

27. **Hector entered a 3-day bike race. He traveled** $20t$ **miles on the first day,** $15(t+6)$ **miles the second day, and** $25(t-3)$ **miles the third day. Which polynomial represents the average number of miles Hector traveled each day?**

A. $20t+1$
B. $20t+5$
C. $60t+3$
D. $60t+15$

28. **Which polynomial expresses the difference between these two polynomials?**

$$\left(9k^7 + k^2 - 7\right) - \left(14k^7 - 6k^2 + 6\right)$$

A. $-5k^7 + 7k^2 - 13$
B. $-5k^7 + 7k^2 - 1$
C. $-5k^7 - 5k^2 - 13$
D. $-5k^7 - 5k^2 - 1$

29. **What is the simplest form of this expression?**

$$\left(-4y^2 + 5\right) + \left(2y^2 - 4\right)$$

A. $-2y^4 + 1$
B. $-8y^4 + 26y^2 - 20$
C. $-y^2$
D. $-2y^2 + 1$

30. **Which expression is equivalent to** $2x^5 + 4x^4 - 5x^5 - \left(3x^4 - 8x^5\right)$?

A. $-11x^5 + x^4$
B. $5x^5 + x^4$
C. $5x^5 + 7x^4$
D. $6x^9$

31. **Which of the following expressions is equivalent to** $5(x - 3)(2x + 1)$?

A. $2x^2 - 5x - 3$
B. $2x^2 + 5x - 3$
C. $10x^2 - 5x - 3$
D. $10x^2 - 25x - 15$

32. **Subtract the following polynomials:** $\left(3x^2 + 2x - 5\right) - \left(4x^2 - 3x - 4\right)$.

A. $-7x^2 + 5x - 9$
B. $-x^2 + 5x - 1$
C. $x^2 - x - 9$
D. $7x^2 - x - 9$

33. **What is the sum of** $(w-2)+(5w-1)$?

A. $6w^2-3$
B. $6w-3$
C. $5w^2-11w+2$
D. $3w$

34. **When Eric multiplied two binomials together, his result was a trinomial. An example is** $(x+2)(x+3)=x^2+5x+6$. **Eric concluded that the product of any two binomials is a trinomial. The product of which pair of binomials disproves Eric's conclusion?**

A. $(x-2)(x+3)$
B. $(x-2)(x+2)$
C. $(x+3)(x+3)$
D. $(x-2)(x-2)$

35. **Which polynomial is equivalent to** $(5n-8)^2$?

A. $10n-16$
B. $25n^2+64$
C. $25n^2-80n+64$
D. $25n^2-40n+64$

36. **Which expression is equivalent to** $\left(6x^8+7x^7-3x^6+1\right)-\left(3x^8-4x^7+7x^6-6\right)$?

A. $3x^8+3x^7+4x^6-5$
B. $9x^8+3x^7+4x^6-5$
C. $9x^8+3x^7+4x^6+7$
D. $3x^8+11x^7-10x^6+7$

37. **What is the difference of** $\left(7n^3-4\right)-\left(2n^2-5\right)$?

A. $7n^3-2n^2+1$
B. $7n^3-2n^2-9$
C. $5n+1$
D. $5n-9$

38. Which expression is equivalent to $^{-}6x^2(3x^2-5x+3)$?

A. $^{-}18x^4+5x^2-18x$
B. $^{-}18x^4+30x^3-18x^2$
C. $^{-}18x^3-5x+3$
D. $^{-}18x^3+30x^2+3$

39. **Which expression is the product of** $(x+5)(2x^2-3x+5)$?

A. $2x^3-3x^2+5x+25$
B. $2x^3+7x^2-10x+25$
C. $2x^3+10x^2-13x+25$
D. $2x^3+13x^2-20x+25$

40. **Which expression represents the difference of** $(8x^3+6x^2+5)$ **and** $(5x^3-x^2-3x+1)$?

A. $3x^3+5x^2+3x+4$
B. $3x^3+5x^2+3x+6$
C. $3x^3+7x^2-3x+6$
D. $3x^3+7x^2+3x+4$

41. **What is the difference of** $(4m^2-5)-(5m-20)$?

A. $-m-25$
B. $-m+15$
C. $4m^2-5m-25$
D. $4m^2-5m+15$

42. **Which expression is equivalent to** $(-2x^2+3x-4)+(2x^2-1)$?

A. $3x-5$
B. $3x-3$
C. $4x^2+3x-5$
D. $-4x^2+3x-5$

43. **What is the sum of** $(q-3)+(3q-7)$?

A. $-6q$
B. $3q^2-16q+21$
C. $4q-10$
D. $4q^2-10$

44. **Which of the following expressions is equivalent to** $3m(m-2)-(m^2+1)$?

A. $2m^2-1$
B. $2m^2-6m-1$
C. $4m^2-6m+1$
D. $4m^2-1$

45. **Which expression is equivalent to $\left(x^3 + 4x - 3\right) - \left(x^3 - 2x + 5\right)$?**

A. $2x - 2$
B. $2x + 2$
C. $6x - 8$
D. $6x + 8$

46. **What binomial must be added to $(3r + 14)$ to make the sum of the 2 polynomials equal $(8r - 6)$?**

A. $11r + 8$
B. $11r - 20$
C. $5r + 8$
D. $5r - 20$

47. **Which polynomial is equivalent to $(10r - 7) + (8r - 10)$?**

A. $18r + 3$
B. $18r - 17$
C. $2r + 3$
D. $2r - 17$

48. Which expression is equivalent to $(x^2 - 1)(x^3 + 1)$?

A. $x^5 - 1$

B. $x^6 - 1$

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

D. $x^6 - x^3 + x^2 - 1$

49. **Which expression is equivalent to $3c(2d + 4e)$?**

A. $6cd + 12e$
B. $6cd + 12ce$
C. $18cd$
D. $18cde$

50. **Which is equivalent to $7y(y - 2z) - 3y(2y + z)$?**

A. $13y^2 - 11yz$
B. $12y^2 - 4yz$
C. $y^2 - 17yz$
D. $y^2 - 11yz$

51. **Which polynomial expresses the product of** $4y(3y^2 + 7y - 11)$?

A. $12y^3 + 7y - 11$
B. $12y^3 + 28y - 44y$
C. $12y^3 + 28y^2 - 44y$
D. $12y^3 + 28y^2 - 11$

52. **What is the sum of** $(4q - 3) + (3q - 1)$?

A. $3q$
B. $7q - 4$
C. $7q^2 - 4$
D. $12q^2 - 13q + 3$

53. **Which polynomial is equivalent to** $(3n + 7)^2$?

A. $6n + 14$
B. $9n^2 + 49$
C. $9n^2 + 21n + 49$
D. $9n^2 + 42n + 49$

54. **Which polynomial is equivalent to** $(3n - 4)^2$?

A. $6n - 8$
B. $9n^2 - 24n + 16$
C. $9n^2 - 12n + 16$
D. $9n^2 + 16$

55. **What is the product of (*t* + 6) and (*t*+ 5)?**

A. $t^2 + 11t + 30$
B. $t^2 + t + 30$
C. $t^2 + 30$
D. $2t + 11$

56. **Which expression is equivalent to** $(2x + 5)(3x^2 - 2x + 1)$?

A. $6x^3 + 19x^2 - 12x + 5$
B. $6x^3 + 15x^2 - 12x + 5$
C. $6x^3 + 11x^2 - 8x + 5$
D. $6x^3 - 4x^2 + 2x + 5$

57. **Which expression is the product of** $(5x + 1)$ **and** $\left(x^2 + x - 10\right)$?

A. $x^2 + 6x - 9$
B. $5x^3 + x - 10$
C. $5x^3 + 6x^2 + x - 10$
D. $5x^3 + 6x^2 - 49x - 10$

58. **What is** $(3y - 8) - (y - 10)$?

A. $2y - 18$
B. $2y + 2$
C. $4y - 18$
D. $4y + 2$

59. **Which expression is equivalent to the expression below?**

$$y\left(3y^2 + 8y - 3\right) - 6y(3y + 2y - 1) + 9y$$

A. $-27y^2 + 23y - 3$
B. $y\left(3y^2 - 10y + 14\right)$
C. $y\left(3y^2 - 22y + 12\right)$
D. $3y^3 - 22y^2 - 6y - 1$

60. **Which expression is equivalent to** $\left(5t^2 + 4t + 18\right) + \left(200 - 5t + 7t^2\right)$?

A. $-2t^2 - 9t + 218$
B. $10t^2 + 11t + 218$
C. $12t^2 - t + 218$
D. $12t^2 + 9t + 218$

61. **What is the product of (*h* – 7) and (*h*– 2)?**

A. $2h - 9$
B. $h^2 + 14$
C. $h^2 - 5h + 14$
D. $h^2 - 9h + 14$

62. **Which polynomial is equivalent to** $5b^2\left(4b^3 - 7b^2 + 10\right)$?

A. $20b^5 - 35b^4 + 50$
B. $20b^5 - 35b^4 + 50b^2$
C. $20b^6 - 35b^4 + 50$
D. $20b^6 - 35b^4 + 50b^2$

63. **Which represents the product of x and $y + 4$?**

A. $x + 4y$
B. $x + y + 4$
C. $xy + 4$
D. $xy + 4x$

64. Which expression is equivalent to $(3k + 2)(3k - 2)$?

A. $6k^2 - 4$
B. $9k^2 - 4$
C. $9k^2 - 6k - 4$
D. $9k + 6k + 4$

65. $3(2x - 4) + 5x - (3x - 7)$ **is equivalent to which expression below?**

A. $8x - 5$
B. $8x - 11$
C. $8x - 19$
D. $14x - 19$

66. **What is the sum of** $(q - 3) + (5q - 8)$?

A. $-5q$
B. $5q^2 - 23q + 24$
C. $6q - 11$
D. $6q^2 - 11$

67. **What is the simplest form of this expression?**

$$w + \frac{2w}{3} - \frac{5w}{12}$$

A. $-\frac{w}{6}$
B. $\frac{3w}{4}$
C. $\frac{5w}{4}$
D. $\frac{15w}{12}$

68. **Which expression is equivalent to** $4x^2 + 9x - 2x + x - 5$?

A. $12x - 5$
B. $4x^2 + 7x - 5$
C. $4x^2 + 8x - 5$
D. $4x^2 + 12x + 5$

69. $5x(x - 2) + 6x - 3(x^2 - 7)$ **is equivalent to which of the following expressions?**

A. $2x^2 + 6x - 9$
B. $2x^2 - 4x - 21$
C. $2x^2 - 16x + 21$
D. $2x^2 - 4x + 21$

70. **Which expression is equivalent to** $(3x^2 + 6x - 5) + (-x^2 + 4)$?

A. $2x^2 + 6x - 1$
B. $2x^2 + 6x - 9$
C. $3x^4 + 6x - 1$
D. $4x^2 + 6x - 1$

71. **What is the simplest form of (4*v* + 3)(5*v* – 4)?**

A. $20v^2 - v - 12$
B. $20v^2 + v - 12$
C. $20v^2 - 31v - 12$
D. $20v^2 + 31 - 12$

72. **Which expression represents a simplified form of the expression 2 + 3(*x* – 3) + 1 – 5(2 – *x*)?**

A. $-2x - 16$
B. $4x - 11$
C. $8x - 16$
D. $9x - 23$

73. **Which expression is the same as** $(3x + 5x - y) + (4x + y - 4x)$?

A. 8*x*
B. 16*x*
C. $8x - 2y$
D. $16x + 2y$

74. Greg measured the lengths of the vehicles in the school parking lot. He recorded the data in the table below.

Type of Vehicle	**Length** (inches)									
Cars	160	176	173	182	163	185	180	172	175	174
Other Vehicles	192	95	180	202	98	208	200	105	210	190

What is the difference in the interquartile range for the 2 types of vehicles?

A. 97

B. 89

C. 8

D. 6

75. The heights and bases of two geometric shapes are modeled by the expressions shown.

Triangle: $h = 3x + 2$ and $b = 2x + 3$

Parallelogram: $h = 3x + 4$ and $b = 3x + 2$

What expression represents the number of units by which the area of the parallelogram is greater than the area of the triangle?

A. $6x^2 + 5$

B. $6x^2 + 11$

C. $6x^2 + \frac{23}{2}x + 5$

D. $6x^2 + \frac{49}{2}x + 11$

76. What is the product of $4x - 1$ and $3x + 5$?

A. $7x + 4$

B. $12x^2 - 5$

C. $12x^2 + 17x - 5$

D. $12x^2 + 23x - 5$

77. $-3y^3(3y - 4xy) =$

A. $-6y^4 - 7xy^4$

B. $-9y^4 - 4xy$

C. $-9y^4 - 12xy^4$

D. $-9y^4 + 12xy^4$

78. Which expression is equivalent to $(7x^2 - 3y)^3$?

A. $343x^6 - 27y^3$

B. $343x^6 - 441x^4y + 189x^2y^2 - 27y^3$

C. $343x^8 - 27y^3$

D. $343x^6 - 441x^8y^2 + 189x^4y^4 - 27y^3$

79. $F(x)$, a 3rd-degree polynomial, and $G(x)$, a 4th-degree polynomial, are both expressions in terms of x.

Does the function $H(x) = F(x) \cdot [F(x) + G(x)]$ also need to be a polynomial function in terms of x? If so, what degree is the function $H(x)$?

A. Yes, it is 21st-degree polynomial in terms of x.

B. Yes, it is a 12th-degree polynomial in terms of x.

C. Yes, it is a 7th-degree polynomial in terms of x.

D. No, it does not need to be a polynomial in terms of x.

80. Which expression is equivalent to $(3x + y) - (4x - 5y)$?

A. $7x + 6y$

B. $7x - 4y$

C. $^{-}x + 6y$

D. $^{-}x - 4y$

81. **Simplify the expression.**

$3x^3 - 4x^2 + 2x + 1 - (3x^3 + 4x^2 - 2x + 1)$

A. 0
B. $-8x^2 + 4x$
C. $6x^3 + 2$
D. $6x^3 - 8x^2 + 4x + 2$

82. **What is the simplest form of (3*p* + 2)(5*p* – 7)?**

A. $15p^2 - 31p - 14$
B. $15p^2 - 11p - 14$
C. $15p^2 + 11p - 14$
D. $15p^2 + 31p - 14$

83. **What is the sum of** $(3s + 4) + (4s + 1)$?

A. $12s$
B. $7s + 5$
C. $7s^2 + 5$
D. $12s^2 + 19s + 4$

84. The expression $5x^2 + 2x + 3$ represents the area of a square. The area of a rectangle is represented by $2x^2 + 3x + 1$. Which expression represents the combined area of the square and rectangle?

A. $7x^4 + 5x^2 + 4$
B. $3x^4 - x^2 + 2$
C. $7x^2 + 5x + 4$
D. $3x^2 - x + 2$

85. **Which expression is equivalent to** $x - (3x + 5) + 2(x - 3) - 2x$?

A. $-2x - 11$
B. $-2x - 8$
C. $-2x - 1$
D. $-2x + 2$

86. **George earns $9.50 per hour and $35.00 commission per sale, but he pays $12.00 in license fees each week. Mary earns $13.50 per hour and $11.25 for every defect she corrects, but she must pay $37.00 for tool rentals each week. The expressions below represent their individual earnings every two-week pay period.**

George: $9.5h + 35s - 2(12)$
Mary: $13.5h + 11.25d - 2(37)$

where:
***h*=the number of hours worked**
***s*=the number of sales George makes**
***d*=the number of defects Mary corrects**

If George and Mary work the same number of hours each pay period, which expression represents their combined earnings for one pay period?

A. $23h + 46.25ds - 196$
B. $23h + 46.25ds - 98$
C. $23h + 35s + 11.25d - 196$
D. $23h + 35s + 11.25d - 98$

87. **What is the product of (*r* + 9) and (*r* – 7)?**

A. $r^2 + 2r - 63$
B. $r^2 - 2r - 63$
C. $r^2 + 16r - 63$
D. $r^2 - 16r - 63$

88. Which expression is equivalent to $(3x^2 - 6x - 4) - (x^2 + 5x - 4)$?

A. $2x^2 - 11x$
B. $2x^2 - x$
C. $2x^2 - 11x - 8$
D. $2x^2 - x - 8$

89. **Which expression is equivalent to** $\left(5x^2 - 4x + 7\right) - \left(-x^2 + 2\right)$?

A. $4x^2 - 4x + 9$
B. $6x^2 - 6x + 7$
C. $6x^2 - 4x + 5$
D. $4x^4 - 4x + 5$

90. **What is the simplest form of the expression below?**

$$\left(-6y^2+7\right)+\left(3y^2-1\right)$$

A. $-3y^2+6$
B. $-3y^2$
C. $-3y^4+6$
D. $-18y^4+27y^2-7$

91. Which expression is equivalent to $(3x^2 + 1) - (x^2 - 5x + 2)$?

A. $2x^2 - 5x + 3$
B. $2x^2 + 5x + 3$
C. $2x^2 - 5x - 1$
D. $2x^2 + 5x - 1$

92. **What is the sum of** $(4s+3)+(2s+1)$?

A. $10s$
B. $8s^2+10s+3$
C. $6s^2+4$
D. $6s+4$

93. **What binomial must be subtracted from** $(7r-5)$ **so that the difference of the 2 polynomials is** $(5r+8)$?

A. $2r+3$
B. $2r-13$
C. $12r+3$
D. $12r-13$

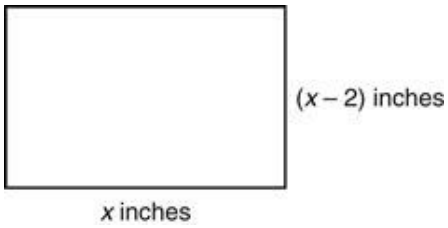
94. **What is the product of** $(2x+1)$ **and** $(2x-1)$?

A. $4x^2$
B. $4x^2-1$
C. $4x^2-2x+1$
D. $4x^2-4x-1$

95. **What is the sum of** $(-9x^4 + 6x^3 + 2x^5 + 6)$ **and** $(3x^5 + 3x^4 + 7x^3 + 8)$?

A. $12x^{24} + 14$
B. $5x^5 - 6x^4 + 13x^3 + 14$
C. $5x^{10} - 6x^8 + 13x^6 + 14$
D. $6x^5 - 27x^4 + 42x^3 + 48$

96. **A rectangle has a length of *x* inches and a width 2 inches less than the length.**



If the dimensions were doubled, what would be the area, in square inches, of the new rectangle in terms of *x*?

A. $2x - 4$
B. $8x - 8$
C. $2x^2 - 4x$
D. $4x^2 - 8x$

97. **What is the product of** $(3x + 5)$ **and** $(x + 4)$?

A. $3x^2 + 20$
B. $3x^2 + 9x + 20$
C. $3x^2 + 17x + 20$
D. $3x^2 + 7x + 20$

98. The length of a rectangle is equal to $3x - 2$. The width of the rectangle is equal to $x^2 - 4x + 8$. Which expression is equal to the perimeter of the rectangle?

A. $x^2 - x + 6$
B. $x^2 - 7x + 6$
C. $2x^2 - 2x + 12$
D. $2x^2 - 14x + 12$

99. **Which is a simplified form of the expression below?**

$$3x^3 - 4x^2 + 1 - \left(3x^3 + 4x^2 - 2x + 1\right)$$

A. 0
B. $-8x^2 + 2x$
C. $-8x^2 + 4x + 2$
D. $6x^3 - 8x^2 + 4x + 2$

100. **Which polynomial is equivalent to** $(5n + 2)^2$?

A. $25n^2 + 20n + 4$
B. $25n^2 + 10n + 4$
C. $25n^2 + 4$
D. $10n + 4$

101. **Which polynomial expresses the difference of the two polynomials below?**

$$\left(8u^7 + 5u^5 - 5\right) - \left(4u^7 - 8u^5 + 4\right)$$

A. $4u^7 - 3u^5 - 9$
B. $4u^7 - 3u^5 - 1$
C. $4u^7 + 13u^5 - 9$
D. $4u^7 + 13u^5 - 1$

102. **Which expression is equivalent to** $(x + 4)^2 - (x + 4)$?

A. $x^2 - x + 12$
B. $x^2 - x + 20$
C. $x^2 + 7x + 12$
D. $x^2 + 7x + 20$

103. If $d_1 = a^2 + 2a + 3$ and $d_2 = 2a^2 + a + 1$, what is the value of $2\left(d_1 - d_2\right)$?

A. $-2a^2 + 2a + 4$

B. $-2a^2 + 6a + 8$

C. $-2a^4 + 2a^2 + 4$

D. $-2a^4 + 6a^2 + 8$

104. **What is the sum of** $(w-3)+(2w-2)$?

A. $2w^2-8w+6$
B. $-2w$
C. $3w^2-5$
D. $3w-5$

105. **Which polynomial expresses the difference of the two polynomials below?**

$$\left(7k^2+9k-8\right)-\left(-2k^2-12k+1\right)$$

A. $9k^2+21k-9$
B. $9k^2+21k-7$
C. $9k^2-3k-9$
D. $9k^2-3k-7$

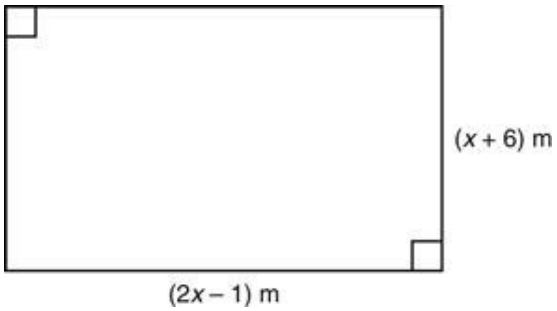
106. **Which property can be used to justify that** $x^2+4x-10+x^3+5x^2-6x+3=x^3+x^2+5x^2+4x-6x-10+3$?

A. associative property
B. distributive property
C. substitution property
D. commutative property

107. **Which expression represents the area of the rectangle below in square units?**

A. $6x+2$
B. $10x+4$
C. $5x^2+4x$
D. $6x^2+4x$

108. **A rectangle is $(x + 6)$ meters (m) long and $(2x - 1)$ meters wide.**



Which expression represents the area of the rectangle in square meters?

A. $2x^2 - 6$
B. $2x^2 + 7x - 6$
C. $2x^2 + 11x - 6$
D. $2x^2 + 13x - 6$

109. **What is the sum of $(5w - 2) + (3w - 2)$?**

A. $15w^2 - 16w + 4$
B. $8w^2 - 4$
C. $8w - 4$
D. $4w$

110. The length of a rectangle is represented by the expression $(x + 5)$. The width is represented by the expression $(x + 3)$. Which expression represents the perimeter of this rectangle?

A. $2x + 8$
B. $4x + 8$
C. $2x + 16$
D. $4x + 16$

111. **Which expression is equivalent to $(x - xy^2)(yz^2 + 2x)$?**

A. $xyz^2 - xy^2z^2 + 2x - 2x^2y^2$
B. $xyz^2 - xy^3z^2 + 2x^2 - x^2y^2$
C. $xyz^2 - xy^3z^2 + 2x^2 + 2x^2y^2$
D. $xyz^2 - xy^3z^2 + 2x^2 - 2x^2y^2$

112. **What is the sum of $(2d - 5) + (2d + 3)$?**

A. $4d^2 - 2$
B. $4d^2 - 4d - 15$
C. $2d$
D. $4d - 2$

113. What is the simplified form of the expression $(6a^5 + a^2 - 5b^3) - (3a^3 + 6a^2 - 2b^3)$?

A. $3a^5 + 7a^2 - 7b^3$
B. $3a^5 - 5a^2 - 3b^3$
C. $6a^5 - 3a^3 - 5a^2 - 3b^3$
D. $6a^5 - 3a^3 + 7a^2 - 7b^3$

114. Which expression is equivalent to $(x + 2)(x + 1)$?

A. $x^2 + 2$
B. $x^2 + 3x + 2$
C. $x^2 + 3x + 3$
D. $2x^2 + 3x + 2$

115. **The expression $-16t^2 + 100t$ represents the height in feet of a rocket *t* seconds after it is launched. The expression $-16t^2 + 80t + 4$ represents the height in feet of a second rocket *t* seconds after it is launched. Which expression is equivalent to the difference in the heights of the two rockets in feet?**

A. $20t + 4$
B. $20t - 4$
C. $-32t^2 + 20t + 4$
D. $-32t^2 + 20t - 4$

116. **What binomial must be added to $(2r + 5)$ to make the sum of the 2 polynomials equal to $(9r - 1)$?**

A. $7r - 6$
B. $7r + 4$
C. $11r - 6$
D. $11r + 4$

117. **Which polynomial expresses the product $2x\left(6x^2+9x-5\right)$?**

A. $12x^3+18x-10x$
B. $12x^3+9x-5$
C. $12x^3+18x^2-5$
D. $12x^3+18x^2-10x$

118. **Which expression is equivalent to $\left(2x^2y\right)^3\left(3x^2y^3\right)$?**

A. $24x^8y^6$
B. $24x^{12}y^9$
C. $18x^{16}y^9$
D. $18x^{10}y^6$

119. **Which polynomial expresses the difference of these two polynomials?**

$$\left(7k^6+6k-10\right)-\left(-3k^6-7k+1\right)$$

A. $10k^6+13k-11$
B. $10k^6-1k-9$
C. $10k^6-1k-11$
D. $10k^6+13k-9$

120. **Which binomial must be added to (−2*r* + 12) so that the sum of the 2 polynomials is (6*r* −7)?**

A. $4r-19$
B. $4r+5$
C. $8r-19$
D. $8r+5$

121. **Which is a simplified form of the expression below?**

$$3x(x-1)-4x(3x-2)$$

A. $-15x^2+8x$
B. $-9x^2+5x$
C. $-9x^2-11x$
D. $15x^2-8x$

122. **What is the product of (*h* – 5) and (*h*– 1)?**

A. h^2-6h+5
B. h^2-4h+5
C. h^2+5
D. $2h-6$

123. **Which expression is equivalent to the expression below?**

$9y^2 + 3y - 4 + 2y - 6y^2 + 1$

A. $3y^2 + 6y - 5$
B. $3y^2 + 5y - 3$
C. $15y^2 + 5y - 5$
D. $15y^2 + 6y - 3$

124. **Which is equivalent to (–2)(–*x*)(–*x*)(–*x*)?**

A. $-8x^3$
B. $-2x^3$
C. $2x^3$
D. $8x^3$

125. **What is the simplest form of (–4*v* + 7)(3*v* – 5)?**

A. $-12v^2 - 41v - 35$
B. $-12v^2 - 1v - 35$
C. $-12v^2 + 1v - 35$
D. $-12v^2 + 41v - 35$

126. **What binomial must be added to $(-6t + 15)$ to make the sum of the 2 polynomials equal $(7t - 5)$?**

A. $t - 20$
B. $t + 10$
C. $13t - 20$
D. $13t + 10$

127. What is the degree of the product of $(3x^3 + 2)$ and $(4x^2 - 1)$?

A. 2
B. 5
C. 6
D. 12

128. **Which expression is equivalent to $5x(x + 3) - 2(x^2 + 3x - 4)$?**

A. $3x^2 + 9x - 8$
B. $3x^2 + 9x + 8$
C. $3x^2 + 21x - 8$
D. $3x^2 + 21x + 8$

129. **Which polynomial is equivalent to** $6b^2\left(5b^3 - 10b^2 + 8\right)$?

A. $30b^5 - 60b^4 + 48b^2$
B. $30b^5 - 60b^4 + 48$
C. $30b^6 - 60b^4 + 48b^2$
D. $30b^6 - 60b^4 + 48$

130. **A rectangle has a length of *x* inches and a width of 2 inches less than the length. If the dimensions were doubled, what would be the area of the new rectangle in terms of *x*?**

A. $\left(2x - 4\right)\text{in.}^2$
B. $\left(8x - 8\right)\text{in.}^2$
C. $\left(2x^2 - 4x\right)\text{in.}^2$
D. $\left(4x^2 - 8x\right)\text{in.}^2$

131. **What is the difference of** $\left(9m^6 - 3\right) - \left(5m^5 - 4\right)$?

A. $4m - 7$
B. $4m + 1$
C. $9m^6 - 5m^5 - 7$
D. $9m^6 - 5m^5 + 1$

132. **What is the simplest form of (2*p* + 1)(2*p* – 5)?**

A. $4p^2 + 12p - 5$
B. $4p^2 + 8p - 5$
C. $4p^2 - 8p - 5$
D. $4p^2 - 12p - 5$

133. Which expression is equivalent to $(x - 2)(x - 6)$?

A. $x^2 + 8x + 12$
B. $x^2 + 8x - 12$
C. $x^2 - 8x + 12$
D. $x^2 - 8x - 12$

134. **What is the difference of $\left(10n^4 - 4\right) - (4n - 5)$?**

A. $10n^4 - 4n - 9$
B. $10n^4 - 4n + 1$
C. $6n^3 - 9$
D. $6n^3 + 1$

135. **Which binomial must be added to $(5r + 11)$ so that the sum of the two polynomials is $(7r - 3)$?**

A. $2r - 14$
B. $2r + 8$
C. $12r - 14$
D. $12r + 8$

136. **Which of the following expressions is the simplified form of $7x - 9 + 5x + 14 + 2(3x - 8)$?**

A. $18x - 21$
B. $18x - 13$
C. $18x - 11$
D. $18x - 3$

137. **Tom is simplifying expressions in his math class.**

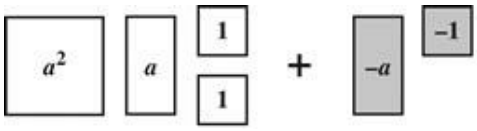
$5(2c + d) - (c + 2d) + (c + d)$
Which expression is equivalent to the expression above?

A. $10c$
B. $10c + 4d$
C. $10c + 8d$
D. $12c + 8d$

138. **Which expression shows $\left(x^2 - 2x + 1\right) - \left(x^2 + 6x + 9\right)$ simplified and factored completely?**

A. $-8(x + 1)$
B. $2(2x + 5)$
C. $x(x - 2) + 1 - x(x + 6) + 9$
D. $(x - 1)(x - 1) - (x + 3)(x + 3)$

139. **The sum of two polynomials is modeled below.**



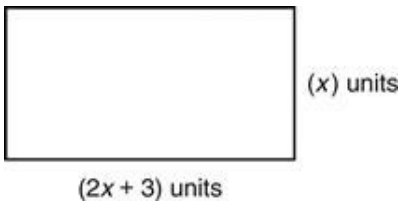
What is the sum of the two polynomials?

A. $a^2 + 1$
B. $a^2 + 2a + 3$
C. $a^2 - 1$
D. $a^2 - 2a - 3$

140. **What is the simplest form of $(5x - 1)(5x + 4)$?**

A. $25x^2 - 25x - 4$
B. $25x^2 + 25x - 4$
C. $25x^2 - 15x - 4$
D. $25x^2 + 15x - 4$

141. **A rectangle has the dimensions shown.**



Which expression represents the area of this rectangle in square units?

A. $2x^2 + 3$
B. $2x^2 + 3x$
C. $3x + 2$
D. $x + 2$

142. **Which polynomial is equivalent to $(z - 12)^2$?**

A. $z^2 - 24z + 144$
B. $z^2 + 144$
C. $z^2 + 24z + 144$
D. $2z - 24$

143. Which expression is equivalent to $5x(x + 2) - 3(x - 1)$?

A. $12x - 3$

B. $18x + 3$

C. $5x^2 + 13x - 3$

D. $5x^2 + 7x + 3$

144. Which expression is equivalent to $(2x - 5)^2$?

A. $4x^2 + 25$

B. $4x^2 - 25$

C. $4x^2 - 20x + 25$

D. $4x^2 - 20x - 25$

145. **What is the difference of** $\left(3n^4 - 6\right) - \left(4n^3 - 13\right)$?

A. $3n^4 - 4n^3 + 7$

B. $3n^4 - 4n^3 - 19$

C. $-n + 7$

D. $-n - 19$

146. Which expression is equivalent to $(6x^3 + 2x^2 - 5x - 1)(3x - 7)$?

A. $18x^4 - 36x^3 - x^2 + 32x + 7$

B. $18x^4 - 36x^3 - x^2 - 38x - 7$

C. $18x^4 - 36x^3 - 29x^2 + 32x + 7$

D. $18x^4 - 36x^3 - 29x^2 - 38x - 7$

147. **What is the difference of** $\left(-3m^4 - 5\right) - (5m - 10)$?

A. $-8m^3 + 5$

B. $-8m^3 - 15$

C. $-3m^4 - 5m + 5$

D. $-3m^4 - 5m - 15$

148. **What is $(4x - 4) - (x + 5)$?**

A. $3x - 9$
B. $3x + 1$
C. $5x - 9$
D. $5x + 1$

149. **What is the sum of $(3r + 3) + (2r + 1)$?**

A. $5r + 4$
B. $5r^2 + 4$
C. $6r^2 + 9r + 3$
D. $9r$

150. **Which expression is a simplified form of $3x\left(xy + 3y^2\right) - 8x^2y$?**

A. $-5x^2y + 9xy^2$
B. $-5x^2y + 6xy^2$
C. $3x^2y - xy^2$
D. $9x^2y^3 - 8x^2y$

151. **What is $(3x + 12) - (6x + 5)$?**

A. $-3x + 7$
B. $-3x + 17$
C. $3x + 7$
D. $3x + 17$

152. **If the like terms in this expression are combined, what is the result?**

$2x + 5y + 3x + 4y$

A. $14xy$
B. $6xy + 8yx$
C. $5x + 9y$
D. $9x + 5y$

153. **What is the sum of $(4z - 3) + (3z - 2)$?**

A. $2z$
B. $7z - 5$
C. $7z^2 - 5$
D. $12z^2 - 17z + 6$

154. Which expression is equivalent to $3(6x - 1)(2x + 3)$?

A. $36x^2 + 48x - 9$

B. $36x^2 + 52x - 3$

C. $36x^2 - 9$

D. $54x^2 - 3$

155. **Simplify the following expression. Put your answer in simplest form.** $t + \frac{2t}{5} - \frac{3t}{15}$

A. $\frac{6t}{5}$

B. $\frac{6t}{15}$

C. $\frac{10t}{15}$

D. $\frac{18t}{15}$

156. **Which polynomial expresses the product** $6z(5z^2 + 4z - 14)$?

A. $30z^3 + 24z^2 - 84z$

B. $30z^3 + 24z^2 - 14$

C. $30z^3 + 24z - 84z$

D. $30z^3 + 4z - 14$

157. **What is the product of (k – 4) and (k + 3)?**

A. $k^2 + 7k - 12$

B. $k^2 + k - 12$

C. $k^2 - k - 12$

D. $k^2 - 7k - 12$

158. **What is** $(5z + 11) - (6z + 7)$?

A. $-z + 4$

B. $-z + 18$

C. $z + 4$

D. $z + 18$

159. **What is** $(5z + 11) - (10z + 7)$?

A. $5z + 18$

B. $5z + 4$

C. $-5z + 18$

D. $-5z + 4$

160. **What is the product of (r + 4) and (r – 3)?**

A. $r^2 + 7r - 12$
B. $r^2 - 7r - 12$
C. $r^2 + r - 12$
D. $r^2 - r - 12$

161. **What binomial must be added to $(3r + 4)$ so the sum of the 2 polynomials is $(5r - 2)$?**

A. $2r - 6$
B. $2r + 2$
C. $8r - 6$
D. $8r + 2$

162. **What is the difference of $\left(-4n^5 - 8\right) - \left(6n^2 - 13\right)$?**

A. $-4n^5 - 6n^2 - 21$
B. $-4n^5 - 6n^2 + 5$
C. $-10n^3 - 21$
D. $-10n^3 + 5$

163. **Which expression is equivalent to $\left(8x^2 - 4x + 3\right) + \left(-5x^2 - 2\right)$?**

A. $3x^2 - 6x + 3$
B. $3x^2 - 4x + 1$
C. $13x^2 - 4x + 1$
D. $13x^2 - 6x + 3$

164. **What is the simplest form of (5x – 8)(2x + 4)?**

A. $10x^2 + 4x - 32$
B. $10x^2 - 4x - 32$
C. $10x^2 + 36x - 32$
D. $10x^2 - 36x - 32$

165. **Simplify $\left(3x^2 - 5\right) - (2x - 6)$.**

A. $3x^2 - 2x + 1$
B. $3x^2 - 2x - 11$
C. $3x^2 + 2x + 1$
D. $3x^2 - 2x + 11$

166. **Chris planted some flowers in his garden. Chris planted 3 times as many roses as daisies. He planted 4 more tulips than daisies. The expression represents the total number of flowers that Chris planted in terms of *d*, the number of daisies planted.**

$(3d) + (d + 4) + d$

Which is equivalent to this expression?

A. $7d$
B. $12d$
C. $3d + 4$
D. $5d + 4$

167. **What is the product of 5*x* and** $x^2 - 2x + 1$?

A. $5x^3 - 10x + 1$
B. $5x^3 - 10x + 5x$
C. $5x^3 - 10x^2 + 1$
D. $5x^3 - 10x^2 + 5x$

168. Which expression is equivalent to $(x + 8)(x - 8)$?

A. $x^2 + 64$
B. $x^2 - 64$
C. $x^2 + 16x + 64$
D. $x^2 - 16x - 64$

169. **What is the product of (*t* + 6) and (*t*+ 3)?**

A. $t^2 + 18$
B. $t^2 + 3t + 18$
C. $t^2 + 9t + 18$
D. $2t + 9$

170. What is the sum of $3x^2 + 4$ and $4x - 4$?

A. $7x^2 + 8$
B. $3x^2 + 4x$
C. $3x^2 + 4x + 8$
D. $3x^2 + 8x - 4$

171. **Simplify** $(2x + 5)(2x - 5)$.

A. $(4x - 25)$
B. $\left(4x^2 - 10\right)$
C. $\left(4x^2 - 25\right)$
D. $\left(4x^2 - 20x - 25\right)$

172. **Which expression is equivalent to** $5a + 5a + 4 + 4$?

A. $2(9a)$
B. $10a^2 + 8$
C. $25a + 16$
D. $2(5a + 4)$

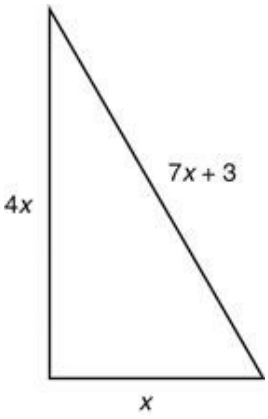
173. **Subtract** $7x^2 - 2x - 1$ **from** $5x^2 - x - 3$.

A. $-2x^2 + x + 2$
B. $-2x^2 - x - 2$
C. $-2x^2 + x - 2$
D. $2x^2 - x + 2$

174. **Which binomial must be subtracted from (10*r* − 7) so that the difference of the 2 polynomials is (93*r* + 12)?**

A. $7r - 19$
B. $7r + 5$
C. $13r - 19$
D. $13r + 5$

175. **Which algebraic expression represents the perimeter of this triangle?**



A. $15x$
B. $11x + 3$
C. $12x + 3$
D. $12x^3 + 3$

176. $(x-5)^2 =$

A. $x^2 - 25$
B. $x^2 + 25$
C. $x^2 - 10x + 25$
D. $x^2 + 10x + 25$

177. **What is the sum of** $(2s+3)+(4s+2)$?

A. $11s$
B. $8s^2 + 16s + 6$
C. $6s^2 + 5$
D. $6s + 5$

178. **Which polynomial is equivalent to** $(-n+3)^2$?

A. $n^2 + 9$
B. $n^2 - 6n + 9$
C. $-n^2 + 9$
D. $-n^2 - 6n + 9$

179. **What binomial must be subtracted from** $(4r-1)$ **so that the difference of the 2 polynomials is** $(2r+11)$**?**

A. $6r + 10$
B. $2r + 10$
C. $6r - 12$
D. $2r - 12$

180. A square has a side length of $3x + 5$. Which expression is equivalent to the area of the square minus the perimeter of the square?

A. $9x^2 + 18x + 5$
B. $9x^2 + 18x + 45$
C. $9x^2 + 42x + 5$
D. $9x^2 + 42x + 45$

181. $\left(6x^2+3x-2\right)-\left(2x^2-2x+3\right) =$

A. $4x^2 + x - 5$
B. $4x^2 + x + 1$
C. $4x^2 + 5x - 5$
D. $4x^2 + 5x + 1$

182. **Which expression represents the simplest form of $xy + 3xy$?**

A. $3xy$
B. $4xy$
C. $3x^2y^2$
D. $4x^2y^2$

183. **Which expression is equivalent to $2 + y + y + y + y + y + 3$?**

A. $y^5 + 5$
B. $y^5 + 6$
C. $5y + 5$
D. $5y + 6$

184. Kathy makes brownies using a square pan that has a side measure of x. She decides that she needs a new pan that is 8 inches longer on each side. Which expression represents the area of the new pan?

A. $x^2 + 16$
B. $x^2 + 64$
C. $x^2 + 2x + 16$
D. $x^2 + 16x + 64$

185. Which expression is equivalent to $(2x - 3)(x^2 - 2x + 1)$?

A. $2x^3 + 7x^2 + 8x + 3$
B. $2x^3 - x^2 + 8x - 3$
C. $2x^3 - 7x^2 + 8x - 3$
D. $2x^3 + x^2 + 8x - 3$

186. **What binomial must be subtracted from $(6r - 4)$ so that the difference of the 2 polynomials is $(2r + 13)$?**

A. $8r + 9$
B. $8r - 17$
C. $4r + 9$
D. $4r - 17$

187. **What is the difference of $(-6n^3 - 10) - (4n^2 - 17)$?**

A. $-10n + 7$
B. $-10n - 27$
C. $-6n^3 - 4n^2 + 7$
D. $-6n^3 - 4n^2 - 27$

188. Which expression is equivalent to $(2x - 1)(^{-}3x + 4)$?

A. $^{-}x + 3$
B. $^{-}6x^2 - 4$
C. $^{-}6x^2 + 5x - 4$
D. $^{-}6x^2 + 11x - 4$

189. Which of the following expressions is the simplified form of the expression below?

$$\frac{(x^3+3)(2x^3+6)-18}{2x^3}\ \frac{(x^3\times 3)(2x^3+6)-18}{2x^3}$$

A. x^3+6x^3+6
B. x^6+6x^6+6
C. $\frac{x^6-3x^3-18}{x^3}\ \frac{x^6-3x^3-18}{x^3}$
D. $\frac{x^9-3x^3-18}{x^3}\ \frac{x^9-3x^3-18}{x^3}$

190. **Which polynomial expresses the difference of these two polynomials?**

$$(8u^6 + 8u^4 - 7) - (-2u^6 - 10u^4 + 2)$$

A. $10u^6 + 18u^4 - 5$
B. $10u^6 + 18u^4 - 9$
C. $10u^6 - 2u^4 - 5$
D. $10u^6 - 2u^4 - 9$

191. **Which polynomial is equivalent to** $(8r-5)+(7r-6)$?

A. $15r+1$
B. $15r-11$
C. $r+1$
D. $r-11$

192. Which expression is equal to *y*, if $(x^2-1)+y=(2x^2+5)$?

A. x^2+4

B. x^2+6

C. $3x^2+4$

D. $3x^2+6$

193. **Which expression shows the simplified form of** $a^3+a^3+a^2+a^2+a+a+1$?

A. $2a^3+2a^2+2a+1$
B. $2a^3+2a^2+2a+2$
C. $a^6+a^4+a^2+1$
D. $a^{12}+1$

194. **Which polynomial is equivalent to** $(12y-8)+(5y-9)$?

A. $7y-17$
B. $7y+1$
C. $17y-17$
D. $17y+1$

195. **Which polynomial is equivalent to** $(4n+5)^2$?

A. $8n+10$
B. $16n^2+25$
C. $16n^2+20n+25$
D. $16n^2+40n+25$

196. A triangle has side lengths of $5a+3$ inches and $2a+3$ inches. If the perimeter of the triangle is $9a+12$ inches, which expression represents the length, in inches, of the third side of the triangle?

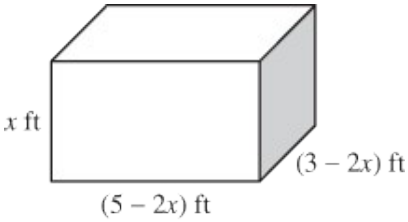
A. $2a+6$

B. $-2a-6$

C. $7a+6$

D. $-7a-6$

197. The length, width, and height of a right rectangular prism are $(5-2x)$ feet, $(3-2x)$ feet, and x feet, respectively. Which expression represents the volume of the prism?



A. $(-12x^2+15x)$ cubic feet

B. $(-3x+8)$ cubic feet

C. $(4x^3+15x)$ cubic feet

D. $(4x^3-16x^2+15x)$ cubic feet

198. **Simplify** $4(8i-2j)-3(-2i+5j)$.

A. $26i+7j$

B. $38i-13j$

C. $38i-23j$

D. $10i-3j$

199. **Which expression is a simplified form of** $2a\left[3b-\left(4ab-b^2\right)\right]-2ab^2$?

A. $6ab-8a^2b$

B. $2ab-8a^2b$

C. $6ab-6a^2b-4ab^2$

D. $6ab-8a^2b-4ab^2$

200. Which expression is equivalent to $(3x^2 - 2y^2)(2x^2 - y^2)$?

A. $5x^4 + 7x^2y^2 + 2y^4$

B. $5x^4 - 7x^2y^2 - 2y^4$

C. $6x^2 - 4x^2y^2 + 2y^2$

D. $6x^4 - 7x^2y^2 + 2y^4$

201. **Which polynomial is equivalent to** $(9y - 4) + (7y - 10)$?

A. $2y - 14$

B. $2y + 6$

C. $16y - 14$

D. $16y + 6$

202. **Which polynomial expresses the difference of the two polynomials below?**

$$\left(-8k^4 + 3k^3 - 6\right) - \left(9k^4 - 11k^3 + 2\right)$$

A. $-17k^4 + 14k^3 - 8$

B. $-17k^4 + 14k^3 - 4$

C. $-17k^4 - 8k^3 - 8$

D. $-17k^4 - 8k^3 - 4$

203. **Which polynomial expresses the product** $z\left(4z^2 + 4z - 8\right)$?

A. $4z^3 + 4z^2 - 8z$

B. $4z^3 + 4z^2 - 8$

C. $4z^3 + 4z - 8z$

D. $4z^3 + 4z - 8$

204. Jessica had \$15. She bought 3 apples for x dollars each. Levi had \$27 and bought 5 apples for x dollars each. Which expression represents how much money both Jessica and Levi have left altogether?

A. $12 - 2x$

B. $27 - 5x$

C. $39 - 3x$

D. $42 - 8x$

205. **What is the product of (*h* – 8) and (*h*– 3)?**

A. $2h - 11$
B. $h^2 + 24$
C. $h^2 - 5h + 24$
D. $h^2 - 11h + 24$

206. Which expression is equivalent to $(2x^2 - 3x + 1) + (4x^2 - 2x - 5)$?

A. $6x^2 - 5x + 6$
B. $6x^2 - 5x - 4$
C. $6x^2 - x - 4$
D. $6x^2 - x + 6$

207. **What binomial must be subtracted from $(9r - 1)$ so that the difference of the 2 polynomials is $(7r + 7)$?**

A. $2r - 8$
B. $16r - 8$
C. $2r + 6$
D. $16r + 6$

208. If $p(x) = x^2 + 2x - 5$ and $q(x) = x - 3$, what is $p(x) - q(x)$?

A. $2x^2 - 2$
B. $2x^2 - 8$
C. $x^2 + x - 2$
D. $x^2 + x - 8$

209. **Which expression is equivalent to $x(x^3 + 3x^2 - 4x) + 2x^2$?**

A. $x^3 + 5x^2 - 4x$
B. $x^3 + 6x^2 - 3x$
C. $x^4 + 3x^3 - 2x^2$
D. $x^4 + 4x^3 - x^2$

210. **What is** $(5x - 4) - (x + 6)$?

A. $6x + 2$
B. $6x - 10$
C. $4x + 2$
D. $4x - 10$

211. **What is the simplest form of the expression below?**

$$\left(-5y^2 + 7\right) + \left(2y^2 - 2\right)$$

A. $2y^2$
B. $-3y^2 + 5$
C. $-3y^4 + 5$
D. $-10y^4 + 24y^2 - 14$

212. **Anna made and sold *x* ceramic vases one week. Her profit, *P*, in dollars, is calculated using the formula** $P = R - C$**, where *R* represents her revenue and *C* represents her costs. If** $R = 25x - 0.5x^2$ **and C = 100 + 5*x*, which expression represents her profit, in dollars?**

A. $-0.5x^2 + 20x - 100$
B. $-0.5x^2 + 30x - 100$
C. $0.5x^2 - 20x + 100$
D. $0.5x^2 + 30x + 100$

213. **Which polynomial is equivalent to** $(x - 8)^2$?

A. $2x - 16$
B. $x^2 + 64$
C. $x^2 + 16x + 64$
D. $x^2 - 16x + 64$

214. **What is the sum of** $(2r + 2) + (6r + 1)$?

A. $11r$
B. $8r + 3$
C. $8r^2 + 3$
D. $12r^2 + 14r + 2$

215. Which expression is equivalent to $(8x^2 + 3x + 7) + (3x^2 + x - 2) - (2x + 9)$?

A. $5x^2 + x - 4$

B. $5x^2 - x + 14$

C. $11x^2 + 2x - 4$

D. $11x^2 + 6x + 14$

216. **What is** $(4z + 8) - (7z + 4)$?

A. $3z + 12$

B. $3z + 4$

C. $-3z + 12$

D. $-3z + 4$

217. **Which polynomial is equivalent to** $(9r - 5) + (8r - 10)$?

A. $r - 15$

B. $r + 5$

C. $17r - 15$

D. $17r + 5$

218. **Which expression is the product of** $(3x - 2)(x^2 - 2x + 3)$?

A. $3x^3 - 2x^2 - 6$

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

C. $3x^3 - 8x^2 + 13x - 6$

D. $3x^3 - 8x^2 + 4x + 3$

219. **Which polynomial is equivalent to** $4b^3(2b^4 - 10b^3 + 3)$?

A. $8b^{12} - 40b^9 + 12b^3$

B. $8b^{12} - 40b^9 + 12$

C. $8b^7 - 40b^6 + 12b^3$

D. $8b^7 - 40b^6 + 12$

220. Which expression is equivalent to $^-5x(3x - 2)$?

A. $^-15x^2 + 10x$

B. $^-15x^2 - 10x$

C. $15x^2 + 10x$

D. $15x^2 - 10x$

221. $\left(7x^3 - 4x^2 + 8\right) + \left(-2x^3 - 5x^2 - 1\right) =$

A. $5x^3 - 9x^2 + 7$
B. $9x^3 + x^2 + 9$
C. $5x^6 - 9x^4 + 7$
D. $9x^6 + x^4 + 9$

222. **Which polynomial expresses the difference of these two polynomials?**

$\left(2k^6 + 5k^5 - 4\right) - \left(6k^6 - 10k^5 + 3\right)$

A. $-4k^6 + 15k^5 - 1$
B. $-4k^6 + 15k^5 - 7$
C. $-4k^6 - 5k^5 - 1$
D. $-4k^6 - 5k^5 - 7$

223. **The length of a rectangle can be represented by the expression** $2x - 1$. **The width of the same rectangle can be represented by the expression** $x^2 - x + 3$. **Which of the following expressions can represent the area of the rectangle?**

A. $x^2 + x + 2$
B. $2x^3 - 2x^2 - 3$
C. $2x^3 + x^2 + 5x + 3$
D. $2x^3 - 3x^2 + 7x - 3$

224. **What is the simplest form of the expression below?**

$\left(-6y^2 + 5\right) + \left(2y^2 - 2\right)$

A. $-12y^4 + 22y^2 - 10$
B. $-4y^4 + 3$
C. $-4y^2 + 3$
D. $-y^2$

225. **Which expression is equivalent to** $7x^6 - 2x^3\left(3x^3 - 1\right) - x^6$?

A. $-2x^3$
B. $2x^3$
C. $6x^6 - 6x^9 + 2x^3$
D. $6x^6 - 6x^9 - 2x^3$

226. **What is the difference of $(10n^3 - 2) - (6n^2 - 13)$?**

A. $4n + 11$
B. $10n^3 - 6n^2 + 11$
C. $4n - 15$
D. $10n^3 - 6n^2 - 15$

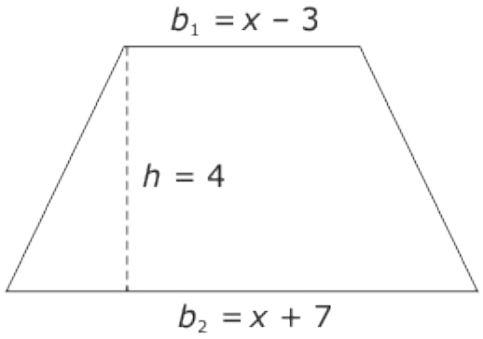
227. **Which polynomial is equivalent to $(z - 11)^2$?**

A. $2z - 22$
B. $z^2 + 121$
C. $z^2 - 22z + 121$
D. $z^2 + 22z + 121$

228. **A rectangle has a length of *x* inches and a width 3 inches less than the length. If the dimensions were doubled, what would be the area of the new rectangle in terms of *x*?**

A. $2x - 6$
B. $8x - 12$
C. $2x^2 - 6x$
D. $4x^2 - 12x$

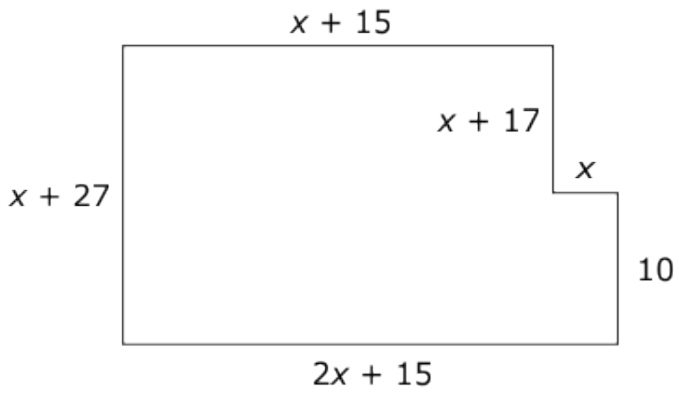
229. The area of a trapezoid is found using the formula $A = \frac{1}{2}h(b_1 + b_2)$, where A is the area, h is the height, and b_1 and b_2 are the lengths of the bases.



What is the area of the above trapezoid?

A. $A = 4x + 2$
B. $A = 4x + 8$
C. $A = 2x^2 + 4x - 21$
D. $A = 2x^2 + 8x - 42$

230. Which expression represents the area of the composite figure shown below?



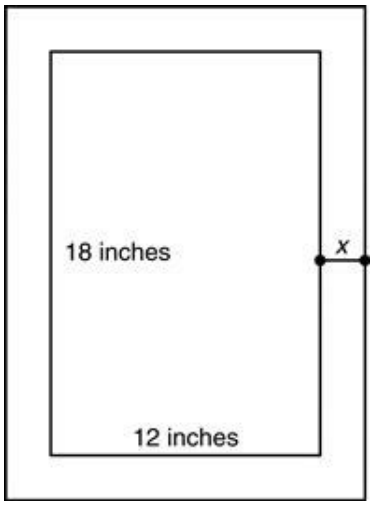
A. $x^2 + 52x + 405$

B. $x^2 + 69x + 405$

C. $2x^2 + 79x + 405$

D. $2x^2 + 87x + 405$

231. **Luis designed a poster with a 12- by 18-inch rectangular picture surrounded by a border. The border is *x* inches wide on all four sides as shown.**



The area of the poster can be represented by the expression $(2x + 12)(2x + 18)$. Which expression is equivalent to the area of the poster in square inches?

A. $4x^2 + 216$

B. $4x^2 + 24x + 216$

C. $4x^2 + 34x + 216$

D. $4x^2 + 60x + 216$

232. **What is the sum of** $(5a-4)+(2a+1)$?

A. $10a^2-3a-4$
B. $7a^2-3$
C. $7a-3$
D. $4a$

233. Which expression is equivalent to $(3x^2 - 5x + 4) + (2x^2 - 7)$?

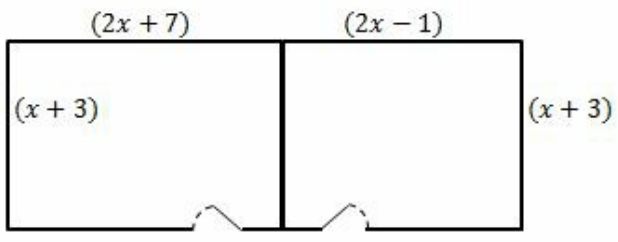
A. $5x^2 - 5x - 3$
B. $5x^2 - 5x - 11$
C. $6x^2 - 5x - 3$
D. $5x^4 - 5x - 3$

234. **Which polynomial expresses the difference of the two polynomials below?**

$$\left(6u^5+8u^3-3\right)-\left(-4u^5-12u^3+2\right)$$

A. $10u^5-4u^3-5$
B. $10u^5-4u^3-1$
C. $10u^5+20u^3-1$
D. $10u^5+20u^3-5$

235. Kerry wants to remodel his house by knocking down a wall between two adjoining, rectangular rooms. On the blueprints, the width of both rooms is defined by the expression $(x+3)$.



If the length of the first room is $(2x+7)$ and the length of the second room is $(2x-1)$, which expression models the area of the new room once the wall is knocked down?

A. $6x+12$

B. $4x^2+18$

C. $4x^2+13x-4$

D. $4x^2+18x+18$

236. **Which expression is equivalent to** $(5q)(3r-5qr+7qr^2)$?

A. $10qr+7qr^2$

B. $15qr-10q^2r$

C. $15qr-25qr+35\,qr^2$

D. $15qr-25q^2r+35q^2r^2$

237. Which polynomial is the product of $(4x-3)(x^2+2x-6)$?

A. $4x^3+5x^2-30x-18$

B. $4x^3+5x^2-30x+18$

C. $4x^3+11x^2-30x-18$

D. $4x^3+11x^2-30x+18$

238. **What is the simplest form of (–*p* + 6)(2*p* – 4)?**

A. $-2p^2 - 16p - 24$
B. $-2p^2 - 8p - 24$
C. $-2p^2 + 8p - 24$
D. $-2p^2 + 16p - 24$

239. **What is the sum of** $(5w - 4) + (2w - 1)$?

A. $10w^2 - 13w + 4$
B. $7w^2 - 5$
C. $7w - 5$
D. $2w$

240. **Consider the steps shown below.**

Given: $x^2 + 8x + 20 = 0$

Step 1: $x^2 + 8x + (16 + 4) = 0$

Step 2: $\left(x^2 + 8x + 16\right) + 4 = 0$

Step 3: $\left(x^2 + 8x + 16\right) = -4$

Which property can be used to justify Step 2?

A. Commutative Property
B. Associative Property
C. Identity Property
D. Distributive Property

241. **What is the product of (*t* + 7) and (*t*+ 1)?**

A. $2t + 8$
B. $t^2 + 7$
C. $t^2 + 6t + 7$
D. $t^2 + 8t + 7$

242. **What is the product of** $(3 - x)$ **and** $(3 + x)$**?**

A. $9 - x^2$
B. $x^2 - 9$
C. $x^2 + 6x + 9$
D. $-x^2 - 6x + 9$

243. **Which polynomial expresses the product $-y(2y^2 + 10y - 12)$?**

A. $-2y^3 - 10y^2 + 12y$
B. $-2y^3 + 10y^2 + 12y$
C. $-2y^3 - 10y^2 - 12$
D. $-2y^3 + 10y - 12$

244. The side length of a cube is $(b + 7)$. What is its volume?

A. $3b + 21$
B. $b^3 + 343$
C. $b^2 + 14b + 49$
D. $b^3 + 21b^2 + 147b + 343$

245. **What is the simplest form of the expression below?**

$$(-4y^2 + 6) + (3y^2 - 2)$$

A. $-y^2 + 4$
B. $-3y^2$
C. $-y^4 + 4$
D. $-12y^4 + 26y^2 - 12$

246. **The perimeter of an isosceles triangle is $7x + 5y - 8$ units, and the length of the base of the triangle is $x - y - 2$ units. What is the length, in units, of each of the congruent sides of the triangle?**

A. $3x + 2y - 5$
B. $3x + 3y - 3$
C. $4x + 2y - 5$
D. $6x + 4y - 10$

247. **What is the sum of $(8a^4 + 4a^3) + (7a^4 + 4a^3)$?**

A. $23a^7$
B. $23a^{14}$
C. $15a^4 + 8a^3$
D. $15a^8 + 8a^6$

248. **What is the difference of $\left(5m^3 - 5\right) - (7m - 18)$?**

A. $-2m^2 - 23$
B. $-2m^2 + 13$
C. $5m^3 - 7m - 23$
D. $5m^3 - 7m + 13$

249. Which expression is equivalent to $(3x + 4y) - (6x - 8y)$?

A. $^{-}3x + 12y$
B. $^{-}3x - 4y$
C. $9x + 12y$
D. $9x - 4y$

250. **What is the simplest form of $(5v + 4)(4v - 7)$?**

A. $20v^2 + 51v - 28$
B. $20v^2 + 19v - 28$
C. $20v^2 - 19v - 28$
D. $20v^2 - 51v - 28$